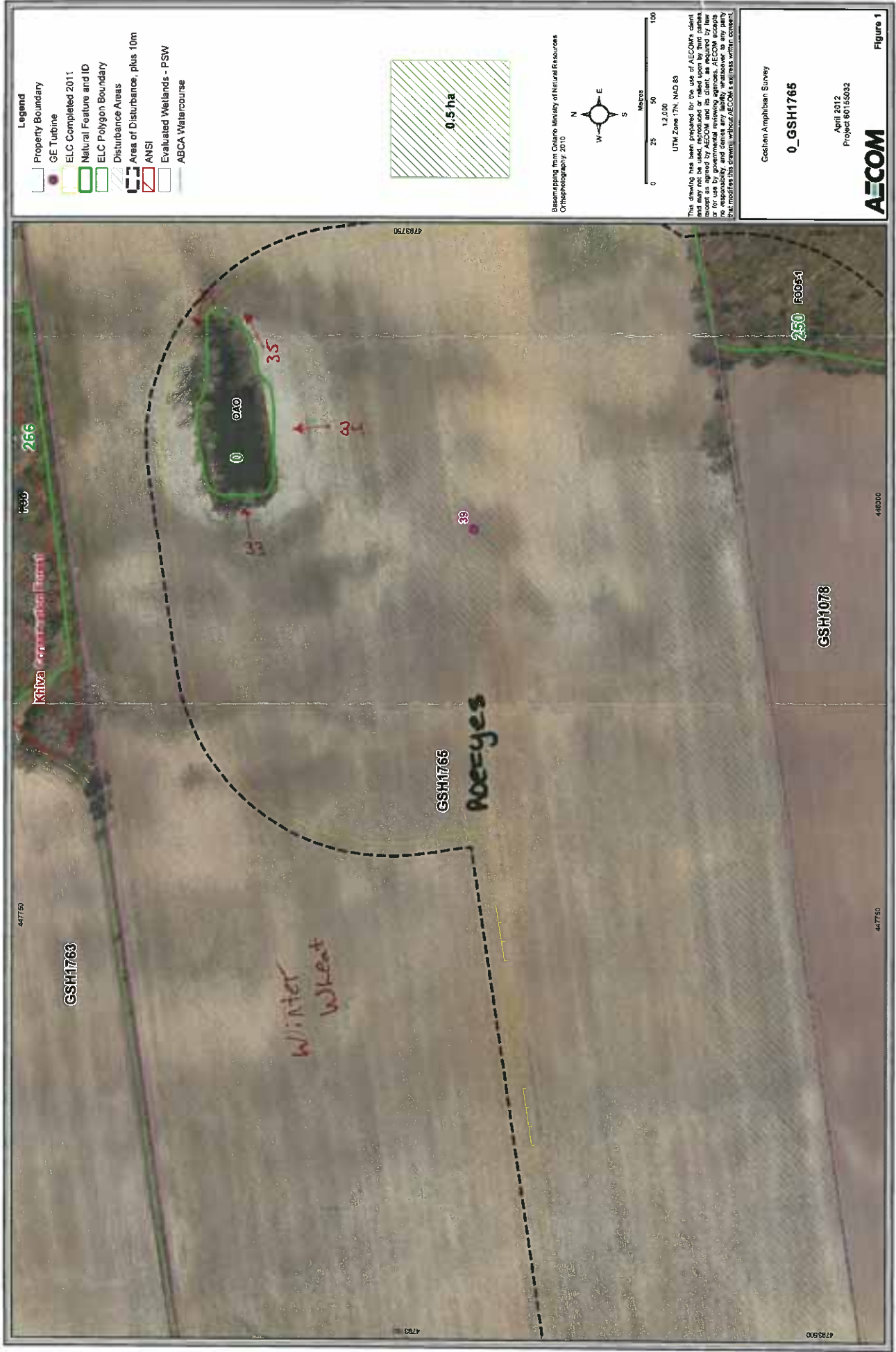


Appendix B1

Site Investigation



Base Mapping from Ontario Ministry of Natural Resources
Orthophotography 2010



0 25 50 100 Meters

UTM Zone 17N, NAD 83

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Goshan Amphibian Survey

0_GSH1765

April 2012
Project 60156032

AECOM

Figure 1

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	<u>GSH</u>	Map #:	0-GSH1765
Date:	2012-04-17			Time Started:	1:30
Field Staff:	Tom Shorney Jess Piette			Time Finished:	2:30
Weather Conditions: <u>Sunny, 5°C, 20km/h</u>					

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD)

Nest bowls present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Number of nests: _____

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____

Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FE01)

Standing water present: ☐ No ☒ Yes (if yes, photograph and complete the following)

UTMs: 17T 448058 4793864 ☒ Area of standing water delineated on field map

Water depth (m): N/A (too large) % open water: 90% % emergent vegetation: 5%

Description of standing water (permanent pool, evidence of annual spring flooding, etc): Permanent Pond → possibly deep in center

Area and soil/substrate of shoreline habitat: Some exposed sand along edge, mineral soil type

Type and abundance of cover in open water habitat: Some grass sp Trees and shrubs → red-osier dogwood

Type and abundance of cover in surrounding habitat: Willow sp / cottonwood surrounding Vege. cover

Evidence of disturbance (e.g. cattle grazing): Management

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: Mallards/geese flushed as we approached → Salamander / Frog sp tadpoles observed

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

Fissured rock/foundation or rock/debris pile present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Likelihood to extend below frost line: _____

% canopy cover: _____ % slope: _____ Distance to open canopy (m): _____

Description of fissure or stone pile (composition/material, dimensions, etc): _____

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): _____

Seeps and Springs
(FOC, FOM, FOD, SWC, SWM, SWD)

Evidence of seep or spring: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

(CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)

Eroding bank, sandy hill, pits, steep slope or rock face present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Location (e.g. aggregate pit, bridge): _____

Evidence of use by bank or cliff swallows (provide number of nests): _____

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

(BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)

Shoreline of lake, large river or large wetland present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

Evidence of disturbance (e.g. cattle grazing): _____

Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover): _____

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat

CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW>15ha

Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:

Large open habitat present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Evidence of disturbance (e.g. cattle grazing): _____

Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation): _____

Old-growth or Mature Forests, Interior Forest Breeding Birds

(FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)

Mature forest present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Age of oldest trees: _____

Evidence of disturbance (e.g. selective cutting): _____

Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc): _____

Photo #	Location or Subject	Photo #	Location or Subject
44	Salamanders		

Species Conservation Concern Habitat and Incidental Wildlife - Goshen

Map No: 0-65H1765
Date (yyyy-mm-dd): 2012-04-17

Field Staff: Tom Shorney
Jesse Pfeiffer

Time Started: 1:30
Time Finished: 2:30

AE DM

Observed Species List

Species Code	UTM	EV	Notes	Species Code	UTM	EV	Notes
Song Sparrow		VO	calling along edge of pond				
Warbling Vireo		OB	Flushed from pond				
Robin		VO	Edge of pond				
Peeper		VO	in pond				
Opereah		OB	North end of pond				
Redwinged Black		VO	calling along edge of pond				
Yellow Finch		OB	in trees				
Hawk sp.		VO	heard out of study area				
Woodpecker sp.		VO	heard pecking out of study area				
Swallow sp.		OB	Catching flies over pond				
Robin		VO	calling - edge of pond				
Downy Woodpecker		OB	on tree along edge of pond				

Note: Evidence Codes (EV) Breeding Bird (Possible) SH=Suitable Habitat, SM=Singing Male;

Breeding Bird (Probable) T-Territory, D=Display, P=Pair, N=Nest Building, V=Visiting Nest; A=Anxiety Behavior;

Breeding Bird (Confirmed) DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Feeding evidence, SC=Scat, SI=Other signs (specify)

Other Wildlife Evidence: OB=observed, VO=Vocalization, CA=Carass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/Young, TK=Tracks, FE=Feeding evidence, SC=Scat, SI=Other signs (specify)

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
PLANTS			
FOD7	American Gromwell (Lithospermum latifolium) - S3 Bloom Time - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y ☒ UTM:
ALO, TPO	Muehlenberg's astomum moss (Astomum muehlenbergianum) - S2 Bloom Time - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y ☒ UTM:
FOM1, FOM2, CUP3	Autumn Coral-root (Corallorhiza odontorhiza) - S2 Bloom Time - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y ☒ UTM:
FOC, FOM, FOD	Burning Bush (Eonymus atropurpureus) - S3 Bloom Time - April - June	Species occurs in dry to moist deciduous thickets and woods	Y ☒ UTM:
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (Coriandrum chinense) - S2 Bloom Time - summer to fall	Swampy places with deciduous trees, white cedars, tamarack; springy river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes	Y ☒ UTM:
SWC, SWM, SWD, SWT, MAM, MAS	Crowned Beggarticks (Bidens trichosperma) - S2 Bloom Time - late summer	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian bay. Bogs, fens, tamarack swamps.	Y ☒ UTM:
ALT1, FOD7	Eastern Green-violet (Hybanthus concolor) - S2 Bloom Time - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	Y ☒ UTM:
TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (Chenopodium foggii) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y ☒ UTM:
TP02, TPS2, TPW2	Giant Ironweed (Vernonia gigantea) - S1? Bloom Time	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y ☒ UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
CUM1, MAM,	June – August		
FOD6, FOD7, FOD9	Green Dragon (<i>Arisaema dracontium</i>) - SC/S3 <u>Bloom Time</u> – May and June	Species found in damp deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	Y (N) UTM
TPO1, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Hairy Bedstraw (<i>Galium pilosum</i>) - S3 <u>Bloom Time</u> – June–August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	Y (N) UTM
FE01, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW	Hairy Valerian (<i>Valeriana edulis</i>) - S1 <u>Bloom Time</u> – June to August	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens.	Y (N) UTM
FOD6, FOD7, SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) –S1 <u>Bloom Time</u> – Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	Y (N) UTM
FOD6, FOD7, FOD8, FOD9	Harbinger-of-spring (<i>Eriogenia bulbosa</i>) - S3 <u>Bloom Time</u> – early to late April	Occurs in rich, moist deciduous woods, especially on floodplains	Y (N) UTM
SAS1, SAM1, SAF1	Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/S2 <u>Bloom Time</u> – summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	Y (N) UTM
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>Platanthera macrophylla</i>) - S2 <u>Bloom Time</u> – June to August	Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands.	Y (N) UTM
MAM2, MAM3, MAS2, MAS3, SWD	Lizard's Tail (<i>Saururus cernuus</i>) - S3 <u>Bloom Time</u> – June – September	Species inhabits shores and streambanks along shallow water. As well as swamps, floodplains, shallow water and mudflats at the borders of streams and ponds.	Y (N) UTM
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) –S3 <u>Bloom Time</u> – March-May	Occurs in moist deciduous woods and stream banks.	Y (N) UTM
FOM8, FOD6, FOD7, FOD9, CUM1	Pilose Evening Primrose (<i>Oenothera pilosella</i>) –S2 <u>Bloom Time</u> – Late Spring – Early Summer	Moist edges of woods and open, disturbed ground.	Y (N) UTM
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Prostrate Tick-trefoil (<i>Desmodium rotundifolium</i>) –S2 <u>Bloom Time</u> – July–September	Dry, sandy or rocky woods	Y (N) UTM
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>)-S2? <u>Bloom Time</u> – March - June	Swamps and floodplains	Y (N) UTM
CUM1, ALO, FET1, SWC	Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 <u>Bloom Time</u> –mid May to mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry sandy woods, and limestone barren	Y (N) UTM
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 <u>Bloom Time</u> – April – September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands.	Y (N) UTM
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) –S3 <u>Bloom Time</u> – May - June	Found in moist woods	Y (N) UTM
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumaria</i>) –S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	Y (N) UTM
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 <u>Bloom Time</u> – May to October	Found in moist, rich woods, thicket swamps, banks and floodplains.	Y (N) UTM
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) –S3	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	Y (N) UTM
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	Slender Knotweed (<i>Polygonum tenue</i>)-S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows, at edges of sand pits	Y (N) UTM
SDT1, FOD5, FOD9	Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	Y (N) UTM
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentianella quinquefolia</i>) - S2 <u>Bloom Time</u> – late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bluffs and wooded hillsides.	Y (N) UTM
TPS1, TPW1, CUW1, RBO, SBO	Sundial Lupine (<i>Lupinus perennis</i>) - S3 <u>Bloom Time</u> – mid-March to mid-June	Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.	Y (N) UTM

Species Conservation Concern Habitat and Incidental Wildlife – Goshen

ADOM

ELC	Species	Habitat Description	Habitat Present (Y/N); UTM; description of habitat if present
TP01, TPS1, TPW1, CUM1	Tall Blazing Star (<i>Liatris aspera</i>) - S2/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y (N) UTM:
FEO, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amoglossum plantagineum</i>) - S3 Bloom Time – mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y (N) UTM:
FOC1, FOC2, FOC3, FOC4	Woodland Pinedrops (<i>Pterospora andromedea</i>) - S2 Bloom Time – summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y (N) UTM:
CUM1, CUT1, CUW1, RBO1, SBO1	Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time – August to November	Dry, open sites, usually on acidic sandy soil, dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y (N) UTM:
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y (N) UTM:
FOD, FOM	Louisiana Waterthrush (<i>Selurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y (N) UTM:
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory; fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	N UTM:
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines	Y (N) UTM:
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluet (<i>Enallagma aspersum</i>) - S3	Species inhabits fishless ponds, lakes and boggy swamps	Y (N) UTM: N/A
TPS, TPW	Sleepy Duskywing (<i>Erynnis brize</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles. Their larvae only feed on milkweeds (<i>Asclepius</i> spp.). Habitat includes abandoned farmland, along roadsides, open spaces where these plants grow	Y (N) UTM:
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	Usually seen nectaring on wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present	Y (N) UTM:
TPS, CUW	Mottled Duskywing (<i>Erynnis martialis</i>) - S2	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y (N) UTM:
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyton</i>) - S3	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y (N) UTM:
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC		Y (N) UTM:

177- GSH 1068



02428 LB 0272/13M047

GSH 1068

02428 LB
6664 CH
147
177- GSH 1068

ELC
Community
Description and
Classification

Surveyor(s): Joe Croston Date: July 12, 2011 Time start: 8:12 AM finish: 11:15 AM
UTMZ: 17 UTMZ: UTMN Polygon: CE72

Polygon Description 22°C, overcast-80% cloud cover

System	Substrate	Topographic Feature	Plant Form	Community
☐ Terrestrial ☒ Wetland ☐ Aquatic	☐ Organic ☒ Mineral Soil ☐ Parent Min. ☐ Acidic Bedrk. ☐ Basic Bedrk. ☐ Carb. Bedrk.	☐ Lacustrine ☐ Riverine ☐ Bottomland ☐ Terrace ☐ Valley Slope ☐ Tableland ☒ Roll. Upland ☐ Cliff ☐ Talus ☐ Crevice/Cave ☐ Alvar ☐ Rockland ☐ Beach / Bar ☐ Sand Dune ☐ Bluff	☐ Plankton ☐ Submerged ☐ Floating-LVD. ☐ Graminoid ☐ Forb ☐ Lichen ☐ Bryophyte ☒ Deciduous ☐ Coniferous ☐ Mixed	☐ Lake ☐ Pond ☐ River ☐ Stream ☐ Marsh ☒ Swamp ☐ Fen ☐ Bog ☐ Barren ☐ Meadow ☐ Prairie ☐ Thicket ☐ Savannah ☐ Woodland ☒ Forest ☐ Plantation
Site				
☐ Open Water ☐ Shallow Water ☒ Surficial Dep. ☐ Bedrock				
History				
☒ Natural ☐ Cultural				
Cover				
☐ Open ☐ Shrub ☒ Tree				

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	FRANIER >> ACESACKH = ACE RUPR 7 GUINAMEK
2	2	3	ACESACKH
3	4	4	ZANAMEK >> RHAGATH
4	6	4	FRANIER > GUINAMEK > TOX RADI > YELLOW GUMS

HT Codes: 7 < 0.2m 8 > 0.2-0.5m 9 > 0.5-1m 4 > 1-2m 3 > 2-6m 2 > 6-25m 1 > 25m
CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

Stand Composition:	Size Class Analysis:
Standing Snags:	Deadfall / Logs:
BA:	

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age:	☐ Pioneer ☐ Young ☒ Mid-Age ☐ Mature ☐ Old Growth
-----------	---

Ecosite:	<u>Deciduous Swampy Deciduous Forest</u>	Code:	<u>FO0</u>
Vegetation Type:	<u>Tough Moist Inland</u>	Code:	<u>FO0#2</u>
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

Community Profile Diagram/Comments

Notes:

Used same soil as SAN 47, same forest community

Free Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
ACESACKH	11					
FRANIER	444					
ZANAMEK	11					
ACESACKH	111					
Total	12					100
Basal Area (BA)	24					
Dead						

Soils Ontario and ELC Soils Description

Site Metrics		Pit/Auger #	Soils Description				Summary
UTM	Zone	17					Moisture Regime 6
	Easting						
	Northing						
	Position						
	Aspect						
	Percent						
	Slope						Drainage P/I
	Length						
	Mottles	20cm					
	Gley						
	Water Table						Effective Texture (Indicate below)
	Carbonates						
	Bedrock						
1	Depth from zero	19	% CF		% CF	% CF	% CF
	Texture	5:1					
2	Depth from zero	40	% CF		% CF	% CF	% CF
	Texture	U					
3	Depth from zero		% CF		% CF	% CF	% CF
	Texture						
4	Depth from zero		% CF		% CF	% CF	% CF
	Texture						
	% Surface Stone/Rock						
	Moisture Regime	6					
	Drainage	Very moist					

POO/imperfect

File: Green Polygon: Seimens 47
 Surveyor(s): July 12, 2011 Time start: 7:32 AM
Yess + Kelly finish: 11:50 AM
 UTMZ: 17 UTMZ: UTMN:

Polygon Description 22C, west-80' cloud cov

System	Substrate	Topographic Feature	Plant Form	Community
☐ Terrestrial ☒ Wetland ☐ Aquatic	☐ Organic ☒ Mineral Soil ☐ Parent Min. ☐ Acidic Bedrk ☐ Basic Bedrk ☐ Carb. Bedrk	☐ Lacustrine ☐ Riverine ☐ Bottomland ☐ Terrace ☐ Valley Slope ☒ Stableland ☐ Roll. Upland ☐ Cliff ☐ Talus ☐ Crevice/Cave ☐ Alvar ☐ Rockland ☐ Beach / Bar ☐ Sand Dune ☐ Bluff	☐ Plankton ☐ Submerged ☐ Floating-LVD ☐ Graminoid ☐ Forb ☐ Lichen ☐ Bryophyte ☐ Deciduous ☐ Coniferous ☐ Mixed	☐ Lake ☐ Pond ☐ River ☐ Stream ☐ Marsh ☒ Swamp ☐ Fen ☐ Bog ☐ Barren ☐ Meadow ☐ Prairie ☐ Thicket ☐ Savannah ☐ Woodland ☐ Forest ☐ Plantation

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; = About Equal To)
1	1	U	FRANIER > KESACK > FERNER > ALMAMER
2			
3	4	U	FRANIER > RHACATH
4	6	U	FRANIER > KESACK > FERNER > ALMAMER

HT Codes: 7 < 0.2m 8 > 0.2-0.5m 9 > 0.5-1m 4 > 1-2m 3 > 2-5m 2 > 5-25m 1 > 25m
 CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

Stand Composition:	Size Class Analysis:	Standing Snags:	Deadfall / Logs:
BA:	☐ <10 ☐ 10-24 ☐ 25-50 ☐ >50	☐ <10 ☐ 10-24 ☐ 25-50 ☐ >50	☐ <10 ☐ 10-24 ☐ 25-50 ☐ >50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age: ☐ Pioneer ☐ Young ☒ Mid-Age ☐ Mature ☐ Old Growth

Ecosite:	Vegetation Type:	Inclusion:	Complex:
Substrate Deciduous Forest	Substrate Deciduous Forest	Substrate Deciduous Forest	Substrate Deciduous Forest
Substrate Deciduous Forest	Substrate Deciduous Forest	Substrate Deciduous Forest	Substrate Deciduous Forest
Substrate Deciduous Forest	Substrate Deciduous Forest	Substrate Deciduous Forest	Substrate Deciduous Forest

Community Profile Diagram/Comments

Notes: Substrate Deciduous Forest
Substrate Deciduous Forest
Substrate Deciduous Forest
Substrate Deciduous Forest

Notes:

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
ACER	1				1	
FRANIER	1				1	
ALMAMER	1				1	
ACER	1				1	
Total	4				4	100
Basal Area (BA)						
Dead						

Soils Ontario and ELC Soils Description

Site Metrics	PH/Auger #	Zone	Easting	North	Position	Aspect	Percent	Slope	Length	Summary
UTM	17	East	437999	4787220	MA	1%				Moisture Regime 6
Slope										Drainage 1/1
Depth to										Effective Texture (Indicate below)
1	14cm									% CF C
2	40cm									% CF
3										% CF
4										% CF
% Surface Stone/Rock										
Moisture Regime	6									
Drainage	very moist									

eff. C Reg/mphub

VASCULAR PLANT CHECKSHEET

Location: Goshen 6570

Date: July 12, 2011

Observer: Jess & Becky

Job Number:

Dicot HERBS												Monocot HERBS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
<i>Achillea millefolium</i>						<i>Erigeron annuus</i>						<i>Plantago lanceolata</i>					
<i>Actaea pachypoda</i>						<i>Erigeron philadelphicus</i>						<i>Plantago major</i>					
<i>Actaea rubra</i>						<i>Erigeron strigosus</i>						<i>Plantago rugelii</i>					
<i>Agalinis</i>						<i>Erysimum chieranthoides</i>						<i>Podophyllum peltatum</i>					
<i>Agrostis hyemalis</i>						<i>Eupatorium maculatum</i>						<i>Polygonum</i>					
<i>Alliaria petiolata</i>						<i>Eupatorium perfoliatum</i>						<i>Polygonum</i>					
<i>Amaranthus retrofractus</i>						<i>Eupatorium rugosum</i>						<i>Polygonum</i>					
<i>Ambrosia artemisiifolia</i>						<i>Euphorbia</i>						<i>Polygonum lapathifolium</i>					
<i>Amphispiza bilineata</i>						<i>Euthamia graminifolia</i>						<i>Polygonum perfoliatum</i>					
<i>Anaphalis margaritacea</i>						<i>Fragaria virginiana</i>						<i>Potentilla</i>					
<i>Anemone</i>						<i>Fragaria vesca</i>						<i>Potentilla norvegica</i>					
<i>Anemone canadensis</i>						<i>Galeopsis tetrahit</i>						<i>Potentilla recta</i>					
<i>Anemone virginiana</i>						<i>Galium</i>						<i>Pteranthus alba</i>					
<i>Antennaria neglecta</i>						<i>Galium</i>						<i>Prunella vulgaris</i>					
<i>Apocynum androsaemifolium</i>						<i>Galium palustre</i>						<i>Pyrola elliptica</i>					
<i>Apocynum cannabinum</i>						<i>Galium triflorum</i>						<i>Ranunculus</i>					
<i>Aquilegia canadensis</i>						<i>Geranium maculatum</i>						<i>Ranunculus abortivus</i>					
<i>Aralia nudicaulis</i>						<i>Geranium robertianum</i>						<i>Ranunculus acris</i>					
<i>Arydum minus</i>						<i>Geum aleppicum</i>						<i>Rudbeckia hirta</i>					
<i>Artemisia</i>						<i>Geum canadense</i>						<i>Rumex acetosella</i>					
<i>Aster canadensis</i>						<i>Geum</i>						<i>Rumex crispus</i>					
<i>Aster incanatus</i>						<i>Glechoma hederacea</i>						<i>Rumex</i>					
<i>Aster spicata</i>						<i>Hepatica acutiloba</i>						<i>Sanguinaria canadensis</i>					
<i>Aster</i>						<i>Hesperis matronalis</i>						<i>Sanicula marilandica</i>					
<i>Aster cordifolius</i>						<i>Hieracium aurantiacum</i>						<i>Saponaria officinalis</i>					
<i>Aster ericoides</i>						<i>Hieracium caespitosum</i>						<i>Satureja vulgaris</i>					
<i>Aster lanceolatus</i>						<i>Hieracium</i>						<i>Scutellaria galericulata</i>					
<i>Aster lateriflorus</i>						<i>Hydrophyllum virginianum</i>						<i>Silene vulgaris</i>					
<i>Aster macrophyllus</i>						<i>Hypericum perforatum</i>						<i>Sium suave</i>					
<i>Aster novae-angliae</i>						<i>Impatiens capensis</i>						<i>Solanum dulcamara</i>					
<i>Aster purpureus</i>						<i>Inula helianthus</i>						<i>Solidago</i>					
<i>Barbarea vulgaris</i>						<i>Lactuca</i>						<i>Solidago altissima</i>					
<i>Bidens cernua</i>						<i>Laportea canadensis</i>						<i>Solidago canadensis</i>					
<i>Bidens frondosa</i>						<i>Lapsana communis</i>						<i>Solidago flexuosa</i>					
<i>Boehmeria cylindrica</i>						<i>Leonurus cardiaca</i>						<i>Solidago gigantea</i>					
<i>Beta palustris</i>						<i>Lepidium</i>						<i>Solidago nemoralis</i>					
<i>Calyptella septum</i>						<i>Linaria vulgaris</i>						<i>Solidago rugosa</i>					
<i>Cerastium diphysa</i>						<i>Lithospermum officinale</i>						<i>Sonchus oleraceus</i>					
<i>Cerastium</i>						<i>Lobelia</i>						<i>Sonchus asper</i>					
<i>Caulophyllum thalictroides</i>						<i>Lobelia inflata</i>						<i>Stellaria</i>					
<i>Cerastium fontanum</i>						<i>Lotus corniculatus</i>						<i>Tanacetum vulgare</i>					
<i>Cerastophyllum demersum</i>						<i>Lycopus americanus</i>						<i>Tanacetum officinale</i>					
<i>Chalidonium majus</i>						<i>Lycopus</i>						<i>Thalictrum dioicum</i>					
<i>Chenopodium album</i>						<i>Lysimachia ciliata</i>						<i>Thalictrum pubescens</i>					
<i>Chrysanth. leucanthemum</i>						<i>Lythrum salicaria</i>						<i>Thlaspi cordifolia</i>					
<i>Cichorium intybus</i>						<i>Medicago lupulina</i>						<i>Thlaspi pratense</i>					
<i>Cicuta</i>						<i>Medicago sativum</i>						<i>Trifolium boreale</i>					
<i>Cirsium leucellens</i>						<i>Melilotus alba</i>						<i>Trifolium</i>					
<i>Cirsium arvense</i>						<i>Mentha arvensis</i>						<i>Trifolium pratense</i>					
<i>Cirsium vulgare</i>						<i>Mimulus ringens</i>						<i>Trifolium repens</i>					
<i>Cornus virginiana</i>						<i>Mitella diphylla</i>						<i>Tussock grass</i>					
<i>Corydalis borealis</i>						<i>Morone fistulosa</i>						<i>Urtica dioica</i>					
<i>Coryza canadensis</i>						<i>Myosotis</i>						<i>Urtica vulgaris</i>					
<i>Coronilla varia</i>						<i>Nasturtium officinale</i>						<i>Verbascum thapsus</i>					
<i>Cynanchum rossicum</i>						<i>Nepeta cataria</i>						<i>Verbena hastata</i>					
<i>Cynoglossum officinale</i>						<i>Nepeta variegata</i>						<i>Verbena urticifolia</i>					
<i>Daucus carota</i>						<i>Nymphaea odorata</i>						<i>Veronica</i>					
<i>Desmodium canadense</i>						<i>Oenothera biennis</i>						<i>Veronica officinalis</i>					
<i>Dianthus armeria</i>						<i>Osmorhiza</i>						<i>Viola cracca</i>					
<i>Dipsacus fullonum</i>						<i>Oxalis stricta</i>						<i>Viola latifolia</i>					
<i>Echinacea lobata</i>						<i>Phytolacca</i>						<i>Viola</i>					
<i>Echium vulgare</i>						<i>Physalis heterophylla</i>						<i>Viola pubescens</i>					
<i>Epilobium</i>												<i>Viola sororia</i>					
<i>Epilobium ciliatum</i>																	
<i>Epilobium hirsutum</i>																	
<i>Epilobium parviflorum</i>																	

1: SWD

2:

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5:

6:

SITE LOCATIONS

CONIFERS						TREES and SHRUBS						GRAMINOIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis		X				Agropyron repens					
Larix laricina						Rubus idaeus		X				Alopecurus					
Picea abies						Rubus occidentalis		X				Bromus inermis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex arctata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii		X			
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						Salix discolor						Carex gracillima		X			
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						Salix purpurea						Carex retrorsa					
Acer negundo						Salix x rubens						Carex stipata					
Acer rubrum		X				Salix						Carex stricta					
Acer saccharinum		X				Sambucus canadensis						Carex vulpinoidea					
Acer saccharum						Sambucus racemosa						Carex <i>intum.</i>		X			
Acer spicatum						Sorbus aucuparia						Carex					
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						Tilia americana						Carex					
Betula alleghaniensis						Ulmus americana		X				Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago		X				Carex					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Cyperus					
Cornus amomum						Vitis riparia		X				Dactylis glomerata					
Cornus rugosa						<i>200th. G.M.C.</i>		X				Danthonia spicata					
Cornus stolonifera												Echinochloa crus-galli					
Corylus cornuta												Eleocharis erythropoda					
Crataegus monogyna												Eleocharis					
Crataegus punctata												Elymus virginicus					
Crataegus sp.		X										Elymus					
Crataegus <i>radialis</i>		X										Festuca arundinacea					
Diervilla lonicera												Glyceria striata			X		
Fagus grandifolia												Glyceria					
Fraxinus americana												Juncus dudleyi					
Fraxinus nigra		X				FERNS						Juncus effusus					
Fraxinus pennsylvanica		X				Adiantum pedatum						Juncus tenuis					
Ilex verticillata						Athyrium filix-femina						Juncus					
Juglans cinerea						Botrychium multifidum						Juncus					
Juglans nigra						Botrychium virginianum						Loeria oryzoides					
Lonicera morrowi						Cystopteris bulbifera						Muhlenbergia					
Lonicera tatarica						Dryopteris carthusiana						Oryzopsis asperifolia					
Lonicera						Dryopteris cristata						Panicum					
Malus pumila						Dryopteris marginalis						Panicum					
Ostrya virginiana						Dryopteris						Phalaris arundinacea			X		
Parthenocissus inserta						Equisetum arvense						Phleum pratense					
Populus balsamifera						Equisetum hyemale						Phragmites australis					
Populus grandidentata						Equisetum variegatum						Poa compressa					
Populus tremuloides						Equisetum						Poa pratensis					
Populus						Gymnocarpium dryopteris						Poa					
Prunus pennsylvanica						Lycopodium digitatum						Scirpus atrovirens					
Prunus serotina						Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana						Lycopodium						Scirpus validus					
Prunus						Lycopodium						Scirpus					
Quercus macrocarpa						Matteucia struthiopteris						Scirpus					
Quercus rubra						Onoclea sensibilis		X				Setaria					
Quercus						Osmunda cinnamomea						Spergulum					
Rhamnus cathartica		X				Osmunda regalis						Typha angustifolia					
Rhus radicans		X				Polystichum acrostichoides						Typha latifolia					
Rhus typhina						Pteridium aquilinum						Typha X glauca					
Ribes americana						Thelypteris palustris											
Ribes cynosbati																	
Ribes x rubrum																	
Robinia pseudo-acacia																	

1 CONIFERS						2 TREES and SHRUBS						3 GRAMINOIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus allegheniensis		X				Agropyron repens					
Larix laricina						Rubus idaeus						Alopecurus					
Picea abies						Rubus occidentalis		X				Bromus tennensis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex acutata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii		X			
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						+ Salix discolor						Carex gracillima		X			
						Salix ericophylla						Carex granularis					
						Salix exigua						Carex hystericina					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrorsa					
Acer negundo						Salix x rubens						Carex stipata					
Acer rubrum		X				+ Salix						Carex stricta					
Acer saccharinum		X				Sambucus canadensis						Carex vulpinoidea					
Acer saccharum						Sambucus racemosa						Carex					
Acer spicatum						Sorbus aucuparia						Carex					
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana						Carex					
Betula alleghaniensis						Ulmus americana		X				Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago		X				Cyperus					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Dactylis glomerata					
Cornus amomum						Vitis riparia		X				Danthonia spicata					
Cornus rugosa						Zanthoxylum		X				Echinochloa crus-galli					
Cornus stolonifera												Echinochloa crus-galli					
Corylus cornuta												Echinochloa crus-galli					
Crataegus monogyna												Echinochloa crus-galli					
Crataegus punctata												Echinochloa crus-galli					
Crataegus sp.		X										Echinochloa crus-galli					
Crataegus mollis		X										Echinochloa crus-galli					
Diervilla lonicera												Echinochloa crus-galli					
Fagus grandifolia												Echinochloa crus-galli					
Fraxinus americana												Echinochloa crus-galli					
Fraxinus nigra		X				FERNS						Echinochloa crus-galli					
Fraxinus pennsylvanica		X				Adiantum pedatum						Echinochloa crus-galli					
Ilex verticillata						Athyrium filix-femina						Echinochloa crus-galli					
Juglans cinerea						Botrychium multifidum						Echinochloa crus-galli					
Juglans nigra						Botrychium virginianum						Echinochloa crus-galli					
Lonicera morrowi						Cystopteris bulbifera						Echinochloa crus-galli					
Lonicera tatarica						Dryopteris caroliniana						Echinochloa crus-galli					
Lonicera						Dryopteris cristata						Echinochloa crus-galli					
Malus pensila						Dryopteris marginalis						Echinochloa crus-galli					
Ostrya virginiana						Elyopteris						Echinochloa crus-galli					
Parthenocissus litoralis		X				Equisetum arvense						Echinochloa crus-galli					
Populus balsamifera						Equisetum hyemale						Echinochloa crus-galli					
Populus grandidentata						Equisetum variegatum						Echinochloa crus-galli					
Populus tremuloides						Equisetum						Echinochloa crus-galli					
Populus						Gymnocarpium dryopteris						Echinochloa crus-galli					
Prunus pennsylvanica						Lycopodium digitatum						Echinochloa crus-galli					
Prunus serotina						Lycopodium obscurum						Echinochloa crus-galli					
Prunus virginiana						Lycopodium						Echinochloa crus-galli					
Prunus						Lycopodium						Echinochloa crus-galli					
Quercus macrocarpa						Mitella struthiopteris						Echinochloa crus-galli					
Quercus rubra						Osmunda cinnamomea		X				Echinochloa crus-galli					
Quercus						Osmunda regalis						Echinochloa crus-galli					
Rhamnus cathartica		X				Polystichum acrostichoides						Echinochloa crus-galli					
Rhus radicans		X				Pteridium aquilinum						Echinochloa crus-galli					
Rhus typhina						Thelypteris palustris						Echinochloa crus-galli					
Rhus americana												Echinochloa crus-galli					
Ribes cynosbat												Echinochloa crus-galli					
Ribes x rubrum												Echinochloa crus-galli					
Robinia pseudo-acacia												Echinochloa crus-galli					

ELC WILDLIFE	SITE: Goshan	
	POLYGON: 5NN 47, GE 72, 6NN 46	
	DATE: 10/12/2011	
	SURVEYORS: JCS + Buckley	
	START TIME:	END TIME:

A	VERNAL POOLS
N	HIBERNACULA

N	SNAGS
A	FALLEN LOGS

[illegible][illegible]

Page ____ of ____

177- 6541068

Goshon ELC SMN46



Polygon: STEINERS 46

Output:

10

Time star

1123

Community
Development and
Classification
$$1E_{ss} + P_{ss}$$

July

1102'21

Artist

12:45

UTTMZ

TWZ:

1000

UTMIN:

Poligon	Description
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System	Substrate	Topographic Feature	Plant Form	Community
☐ Terrestrial	☐ Organic	☐ Lacustrine	☐ Plankton	☐ Lake
☒ Wetland	☒ Mineral Soil	☐ Riverine	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Min.	☐ Bottomland	☐ Floating-LVD.	☐ River
☐ Site	☐ Acidic Bedrk	☐ Terrace	☐ Graminoid	☐ Stream
☐ Open Water	☐ Basic Bedrk	☐ Valley Slope	☐ Forb	☐ Marsh
☐ Shallow Water	☐ Carb. Bedrk	☒ Tableland	☐ Lichen	☒ Swamp
☒ Surficial Dep.		☐ Roll, Upland	☐ Bryophyte	☐ Fen
☐ Bedrock		☐ Cliff	☒ Deciduous	☐ Bog
☐ History		☐ Talus	☐ Coniferous	☐ Barren
☐ Natural		☐ Cravice/Cave	☐ Mixed	☐ Meadow
☐ Cultural		☐ Alluv		☐ Prairie
☐ Cover		☐ Rockland		☐ Thicket
☐ Open		☐ Beach / Bar		☐ Savannah
☐ Shrub		☐ Sand Dune		☐ Woodland
☒ Tree		☐ Bluff		☒ Forest
				☐ Plantation

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (>> Much Greater Than; > Greater Than; = About Equal To)
1	1	4	
2			
3			
4			

HT Codes:	7 < 0.2m	8 > 0.3-0.5m	9 > 0.5-1m	4 > 1-2m	3 > 2-6m	2 > 6-25m	1 > 25m

Stand Composition:	Size Class Analysis:				
	<10	10-24	25-50	>50	
Standing Snags:	<10	10-24	25-50	>50	
Deadfall / Logs:	<10	10-24	25-50	>50	

Abundance Codes:	N = None	R = Rare	O = Occasional	A = Abundant
BA:				

Com. Age:	☐ Pioneer	☐ Young	☐ Mid-Age	☐ Mature	☐ Old Growth
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EcoSite:		Code:	90002
Vegetation		Code:	F0072
Type:		Code:	
Inclusion:		Code:	
Complex:		Code:	

Community Profile Diagram/Comments

3. Bank account same as previous.

ASH / India

Notes:

help community descriptions forms" of forms (2004)

Tree Tally by Species

[illegible]

Soils Ontario and FLC Soils Description

	Pit/Auger #						Summary
Site Metrics	UTM	Zone					Molature Regime
		Easting					
		Northing					
	Slope	Position					Drainage
		Aspect					
		Percent					
	Slope Length						
Depth to ...	Mottles					Effective Texture (Indicate below)	
	Gley						
	Water Table						
	Carbonates						
	Bedrock						
	1	Depth from zero	% CF	% CF	% CF		% CF
	Texture						
Soil Horizon Description	2	Depth from zero	% CF	% CF	% CF	% CF	
	Texture						
	3	Depth from zero	% CF	% CF	% CF	% CF	
	Texture						
	4	Depth from zero	% CF	% CF	% CF	% CF	
	Texture						
	% Surface Stone/Rock						
	Moisture Regime						
	Drainage						

Seimens 46 = sunny, 10% overcast

July 12, 2011

- entire length of woodlot
- agricultural land use adjacent / Channelized, agricultural drain / little water

VASCULAR PLANT CHECKSHEET

Location: Goshen SMN 46

Date: July 12, 2011

Observer: JESS + Rocky

Job Number:

HERBS	1	2	3	4	5	6	1	2	3	4	5	6	MONOCOT HERBS	1	2	3	4	5	6
<i>Achillea millefolium</i>							<i>Erigeron annuus</i>						<i>Plantago lanceolata</i>						
<i>Actaea pachyloba</i>							<i>Erigeron philadelphicus</i>						<i>Plantago major</i>						
<i>Actaea rubra</i>							<i>Erigeron strigosus</i>						<i>Plantago rugelii</i>						
<i>Agalinis</i>							<i>Erysimum cheiranthoides</i>						<i>Podophyllum peltatum</i>						
<i>Agrostis gryposepala</i>							<i>Eupatorium maculatum</i>						<i>Polygonum</i>						
<i>Allaria petiolata</i>							<i>Eupatorium perfoliatum</i>						<i>Polygonum</i>						
<i>Anemone nemorosa</i>							<i>Eupatorium rugosum</i>						<i>Polygonum</i>						
<i>Anemone ranunculoides</i>							<i>Euphorbia</i>						<i>Polygonum lapathifolium</i>						
<i>Anemone virginiana</i>							<i>Euthamia graminifolia</i>						<i>Polygonum pensilvanicum</i>						
<i>Anthriscus neglecta</i>							<i>Fragaria virginiana</i>						<i>Potentilla</i>						
<i>Apocynum androsaemifolium</i>							<i>Fragaria vesca</i>						<i>Potentilla norvegica</i>						
<i>Apocynum cannabinum</i>							<i>Galeopsis tetrahyt</i>						<i>Potentilla recta</i>						
<i>Aquilegia canadensis</i>							<i>Galium</i>						<i>Primula elata</i>						
<i>Asarum canadense</i>							<i>Galium palustre</i>						<i>Pyrola asarifolia</i>						
<i>Asarum virginicum</i>							<i>Galium triflorum</i>						<i>Ranunculus abortivus</i>						
<i>Asclepias tuberosa</i>							<i>Geranium maculatum</i>						<i>Ranunculus acris</i>						
<i>Aster laevis</i>							<i>Geranium robertianum</i>						<i>Rudbeckia hirta</i>						
<i>Aster multiflorus</i>							<i>Geum alepicum</i>						<i>Rumex crispus</i>						
<i>Aster paniculatus</i>							<i>Geum canadense</i>						<i>Rumex crispus</i>						
<i>Aster sp.</i>							<i>Geum</i>						<i>Rumex</i>						
<i>Aster sp.</i>							<i>Glechoma hederacea</i>						<i>Sanguinaria canadensis</i>						
<i>Aster sp.</i>							<i>Hepatica acutiloba</i>						<i>Sarothamnus canadensis</i>						
<i>Aster sp.</i>							<i>Hesperis matronalis</i>						<i>Saxifraga oppositifolia</i>						
<i>Aster sp.</i>							<i>Heracleum autumnale</i>						<i>Sedum album</i>						
<i>Aster sp.</i>							<i>Heracleum corymbosum</i>						<i>Scutellaria perfoliata</i>						
<i>Aster sp.</i>							<i>Heracleum</i>						<i>Silene vulgaris</i>						
<i>Aster sp.</i>							<i>Hydrophyllum virginianum</i>						<i>Sium suave</i>						
<i>Aster sp.</i>							<i>Hydrophyllum perfoliatum</i>						<i>Sium</i>						
<i>Aster sp.</i>							<i>Impatiens capensis</i>						<i>Solanum dulcamara</i>						
<i>Aster sp.</i>							<i>Irula helveticum</i>						<i>Solidago</i>						
<i>Barbarea vulgaris</i>							<i>Lactuca</i>						<i>Solidago altissima</i>						
<i>Bidens cernua</i>							<i>Laportea canadensis</i>						<i>Solidago canadensis</i>						
<i>Bidens frondosa</i>							<i>Lapsana communis</i>						<i>Solidago canadensis</i>						
<i>Bifentheria cylindrica</i>							<i>Leonurus cardiaca</i>						<i>Solidago flexilis</i>						
<i>Bifentheria cylindrica</i>							<i>Lepidium</i>						<i>Solidago gigantea</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica vulgaris</i>						<i>Solidago nemoralis</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Solidago rigida</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus asper</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
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<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
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<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
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<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						
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<i>Bifentheria cylindrica</i>							<i>Urtica dioica</i>						<i>Sonchus oleraceus</i>						

CONIFERS	1	2	3	4	5	6	TREES and SHRUBS	1	2	3	4	5	6	GRAMINOIDS	1	2	3	4	5	6
Abies balsamea							+ Rosa multiflora							Agrostis gigantea						
Juniperus communis							Rosa							Agrostis stolonifera						
Juniperus virginiana							Rubus alleghaniensis		X					Agropyron repens						
Larix laricina							Rubus idaeus							Alopecurus						
Picea abies							Rubus occidentalis		X					Bromus laetis						
Picea glauca							Rubus odoratus							Calamagrostis canadensis						
Pinus resinosa							Rubus pubescens							Carex acutata						
Pinus strobus							Salix alba							Carex aurea						
Pinus sylvestris							Salix amygdalioides							Carex bebbii		X				
Thuja occidentalis							Salix bebbiana							Carex blanda						
Tsuga canadensis							+ Salix discolor							Carex gracillima		X				
							Salix eriocephala							Carex gausleri						
							Salix exigua							Carex hystrixica						
							Salix lucida							Carex pennsylvanica						
							Salix petiolaris							Carex radiata						
TREES and SHRUBS	-	-	-	-	-	-	+ Salix purpurea							Carex retrosa						
Acer negundo							Salix x rubens							Carex stipitata						
Acer rubrum	X						+ Salix							Carex stricta						
Acer saccharinum	X						Sambucus canadensis							Carex vulpinoides						
Acer saccharum							Sambucus racemosa							Carex <i>inheredent</i>		X				
Acer spicatum							Sorbus aucuparia							Carex						
Alnus rugosa							Spicata alba							Carex						
Amelanchier							Syringa vulgaris							Carex						
Berberis thunbergii							* Tilia americana							Carex						
Betula alleghaniensis							Ulmus americana		X					Carex						
Betula papyrifera							Ulmus							Carex						
Carpinus caroliniana							Vaccinium							Carex						
Carya cordiformis							Viburnum lentago		X					Carex						
Celastrus scandens							Viburnum opulus							Cyperus						
Cornus alternifolia							Viburnum							Cyperus						
Cornus amomum							Vitis riparia		X					Dactylis glomerata						
Cornus rugosa							<i>Zea mays</i>		X					Danthonia spicata						
Cornus stolonifera														Echinochloa crus-galli						
Corylus cornuta														Eleocharis erythropoda						
Crataegus monocyna														Eleocharis						
Crataegus punctata														Elymus virginicus						
Crataegus sp.														Elymus						
Crataegus <i>flu</i>		X												Festuca arundinacea						
Diervilla lonicera														Glyceria striata			X			
Fagus grandifolia														Glyceria						
Fraxinus americana														Juncus dudleyi						
Fraxinus nigra		X					FERNS							Juncus effusus						
Fraxinus pennsylvanica		X					Adiantum pedatum							Juncus tenuis						
Ilex verticillata							Athyrium filix-femina							Juncus						
Juglans cinerea							Botrychium multifidum							Juncus						
Juglans nigra							Botrychium virginianum							Leersia oryzoides						
Lonicera morrowi							Cystopteris bulbifera							Muhlenbergia						
Lonicera tatarica							Dryopteris caroliniana							Oryzopsis asperifolia						
Lonicera							Dryopteris cristata							Panicum						
Malus pomila							Dryopteris marginalis							Panicum						
Ostrya virginiana							Dryopteris							Phalaris arundinacea			X			
Parthenocissus interia		X					Equisetum arvense							Phleum pratense						
Populus balsamifera							Equisetum hyemale							Plataginis australis						
Populus grandidentata							Equisetum variegatum							Poa compressa						
Populus tremuloides							Equisetum							Poa pratensis						
Populus							Gymnocarpium dryopteris							Poa						
Prunus pennsylvanica							Lycopodium digitatum							Scirpus atrovirens						
Prunus serotina							Lycopodium obscurum							Scirpus cyperinus						
Prunus virginiana							Lycopodium							Scirpus validus						
Prunus							Lycopodium							Scirpus						
Quercus macrocarpa							Mithrasia struthiopteris							Scirpus						
Quercus rubra							Onoclea sensibilis			X				Setaria						
Quercus							Osmunda cinnamomea							Spartanum						
Rhamnus cathartica		X					Osmunda regalis							Typha angustifolia						
Rhus radicans		X					Polystichum acrostichoides							Typha latifolia						
Rhus typhina							Pteridium aquilinum							Typha x glauca						
Ribes americana							Thelypteris palustris													
Ribes cynosbati																				
Ribes x rubrum																				
Robinia pseudo-acacia																				

Sw 17765H 1068

Dong Aug. 12/11 -SAM

17765H 1068

Goshen Access Road / Collection Lines



- Roads
- ELC to Enigma
- Waterbodies
- Access/Collection Line
- No Access (as of August 2011)
- Access
- Goshen Wind Energy Corridor
- 125m Buffer

177-065H 1068



ELC	Community Description and Classification	UTMZ: 17		UTMZ:		UTMN:	
		Date: Aug. 12/11		Time start finish:		Polygon: 0	
Site: GSH 1068		Surveyor(s): SAM		UTMZ:		UTMN:	

Polygon Description		w/ 201 = 200 (records photo)		
System	Substrate	Topographic Feature	Plant Form	Community
☐ Terrestrial	☐ Organic	☐ Lacustrine	☐ Plankton	☐ Lake
☐ Wetland	☒ Mineral Soil	☐ Riverine	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Min.	☐ Bottomland	☐ Floating-LVD	☐ River
	☐ Acidic Bedrk	☐ Terrace	☐ Graminoid	☐ Stream
☐ Open Water	☐ Basic Bedrk	☐ Valley Slope	☐ Forb	☐ Marsh
☐ Shallow Water	☐ Carb. Bedrk	☒ Tableland	☐ Lichen	☐ Swamp
☒ Surficial Dep.		☐ Roll. Upland	☐ Bryophyte	☐ Fen
☐ Bedrock		☐ Cliff	☒ Deciduous	☐ Bog
History		☐ Talus	☐ Coniferous	☐ Barren
☒ Natural		☐ Crevice/Cave	☐ Mixed	☐ Mes. dow
☐ Cultural		☐ Alvar		☐ Prairie
Cover		☐ Rockland		☐ Thicket
☐ Open		☐ Beach / Bar		☐ Sav. vinnah
☐ Shrub		☐ Sand Dune		☐ Woodland
☒ Treed		☐ Bluff		☒ Forest

Layer	HT	CVR	Species In Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than; > Greater Than; = About Equal To)
1	2	44	$A_w = H_x > E_w > H_s$
2	3	44	$A_w = H_x > E_w > H_s$
3	4	2	$A_x = E_w$
4			no trees ground level - $\text{Poisson} / w = \text{smooth Rec}$

HT Codes:	7 <0.2m	8 <0.2-0.5m	9 >0.5-1m	10 >1-2m	11 >2-3m	12 >3-6m	13 >6-25m	14 >25m
CVR Codes:	0 = none	1 0% - 10%	2 10 - 25%	3 25 - 60%	4 60%			
Stand Composition:								
BA:	2.5							
Size Class Analysis:	Q <10 Q <10 Q <10							
Standing Snags:	Q 10-24 Q 10-24 Q 10-24							
Deadfall / Logs:	Q 10-24 Q 10-24 Q 10-24							
Succession Codes:	N = None R = Rare O = Occasional A = Abundant							
Count	R >5 N >5 N >5							

Com. Age:	☐ Pioneer	☐ Young	☐ Mid-Age	☒ Mature	☐ Old Growth
Ecosite:	Fresh-Moist Lowland Deciduous Forest				
Vegetation Type:	Fresh-Moist White Ash-Swamp Maple Deciduous Forest Type				
Inclusion:	/				
Complex:	/				

[illegible]

Tree Tally by Species					Prism Factor	2
Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Rel. Avg.
AW	2 4	1 6			10	40
AX	2 2	1 7			9	36
EW	2 3	2 2			5	25
Total	10	15			25	100
Basal Area (BA)	2.0	3.0			5.0	25
Basal						

Soils Ontario and ELC Soils Description										
Site Metrics	PI#/Auger #	w p200 ① w p200 ②								
	Zone	17								
	Eastings									
	Northings									
	Position									
Slope	Aspect	SW 5								
	Percent	5								
	Slope	2m								
	Length	17								
	Mottles	A3								
Depth to...	Gley	5A								
	Water Table	—								
	Carbonates	46								
	Bedrock	—								
	1	Depth from zero	0	% CF	—	0	% CF	—	% CF	
Soil Horizon Description	Texture	LC								
	2	Depth from zero	14	% CF	—	24	% CF	—	% CF	
	Texture	C								
	3	Depth from zero		% CF		50	% CF	10	% CF	
	Texture	C								
Soil Horizon Description	4	Depth from zero		% CF			% CF		% CF	
	Texture									
	% Surface Stoner/Rock									
	Moisture Regime	Very Moist (6) Moist (5)								
	Drainage	Imperfect (5) Imperfect (5)								
Summary		Moist (5)								
Moisture Regime		Imperfect (5)								
Drainage		Imperfect (5)								

Location: 177 GSH 1068
Observer: SAM

VASCULAR PLANT CHECKSHEET

Date: Aug. 12/11

Job Number:

DICOT HERBS	1	2	3	4	5	6	1	2	3	4	5	6	MONOCOT HERBS	1	2	3	4	5	6
Achillea millefolium													Allium plantago-aquaticum						
Actaea pachypoda													Allium tricoccum						
Actaea rubra													Allium						
Agalinis													Antennaria triphyllum						
Agrostis gryposepala													Asparagus officinalis						
Allaria petiolata													Calla palustris						
Amaranthus retrofractus													Clintonia borealis						
Ambrosia artemisiifolia													Convolvulus major						
Amphicarpaea bracteata													Cypripedium calceolus						
Anaphalis margaritacea													Elodea canadensis						
Anemone													Epigaea hibernica						
Anemone canadensis													Erythronium americanum						
Anemone virginiana													Hamamelis fulva						
Antennaria neglecta													Iris versicolor						
Apocynum androsaemifolium													Lemna minor						
Apocynum cannabinum													Lemna trisulca						
Aquilegia canadensis													Lilium						
Aralia nudicaulis													Melanthium canadense						
Arctium minus													Melanthium racemosa						
Artemisia													Melanthium strobilatum						
Asarum canadense													Polygonum						
Asterias incana													Polygonum lapathifolium						
Asterias sylvatica													Polygonum persicaria						
Aster													Potentilla						
Aster cordifolius													Potentilla norvegica						
Aster ericoides													Potentilla recta						
Aster lanceolatus													Prunella alba						
Aster lateriflorus													Prunella vulgaris						
Aster macrophyllus													Pyrus elliptica						
Aster novae-angliae													Ranunculus						
Aster purpureus													Ranunculus abortivus						
Barbarea vulgaris													Ranunculus acris						
Bidens cernua													Rudbeckia hirta						
Bidens frondosa													Rumex acetosella						
Boehmeria cylindrica													Rumex crispus						
Calla palustris													Rumex						
Calyptegia asperum													Sanguinaria canadensis						
Candellaria diphyllo													Sanicula marilandica						
Candellaria													Saponaria officinalis						
Caulophyllum thalictroides													Saturia vulgaris						
Cerastium fontanum													Scutellaria galericulata						
Cerastophyllum demersum													Silene vulgaris						
Chelidonium majus													Simulium						
Chenopodium album													Solidago canadensis						
Chrysanth. leucanthemum													Solidago flexicaulis						
Cichorium intybus													Solidago gigantea						
Cicuta													Solidago nemoralis						
Circaea leutiflora													Solidago rugosa						
Cirsium arvense													Sonchus oleraceus						
Cirsium vulgare													Sonchus asper						
Clematis virginiana													Stellaria						
Clintonia borealis													Tanacetum vulgare						
Coryza canadensis													Taraxacum officinale						
Coronilla varia													Thalictrum dioicum						
Cynanchum rossicum													Thalictrum pubescens						
Cynoglossum officinale													Tiarella cordifolia						
Daucus carota													Tragopogon pratensis						
Desmodium canadense													Trifolium boreale						
Dianthus amurens													Trifolium						
Dipsacus fulmonum													Trifolium pratense						
Echinocystis lobata													Trifolium repens						
Echium vulgare													Tussilago farfara						
Epilobium													Urtica dioica						
Epilobium ciliatum													Urticaria vulgaris						
Epilobium hirsutum													Verbesina						
Epilobium parviflorum													Veronica officinalis						
													Viola cracca						
													Viola tetrasperma						
													Viola						
													Viola pubescens						
													Viola sororia						

1: polygon 2/ 4: _____
2: _____ 5: _____
3: _____ 6: _____

SITE LOCATIONS

CONIFERS	1	2	3	4	5	6	TREES and SHRUBS	1	2	3	4	5	6	GRAMINOIDS	1	2	3	4	5	6
Abies balsamea							+ Rosa multiflora							Agrostis gigantea						
Juniperus communis							Rosa							Agrostis stolonifera						
Juniperus virginiana							Rubus allegheniensis							Agropyron repens						
Larix laricina							Rubus idaeus			X				Alopecurus						
Picea abies							Rubus occidentalis							Bromus inermis						
Picea glauca							Rubus odoratus							Calamagrostis canadensis						
Pinus resinosa							Rubus pubescens							Carex arcuata						
Pinus strobus							Salix alba							Carex aurea						
Pinus sylvestris							Salix amygdaloides							Carex bebbii						
Thuja occidentalis							Salix bebbiana							Carex blanda						
Tsuga canadensis							+ Salix discolor							Carex gracillima						
							Salix eriocephala							Carex granularis						
							Salix exigua							Carex hystericina						
							Salix lucida							Carex pennsylvanica						
							Salix petiolaris							Carex radiata						
TREES and SHRUBS							+ Salix purpurea							Carex retrorsa						
Acer negundo							Salix x rubens							Carex stipata						
Acer rubrum							+ Salix							Carex stricta						
Acer saccharinum		X					Sambucus canadensis							Carex vulpinoidea						
Acer saccharum							Sambucus racemosa							Carex <i>crispata</i>		X				
Acer spicatum							Sorbus aucuparia							Carex						
Alnus rugosa							Spiraea alba							Carex						
Amelanchier							Syringa vulgaris							Carex						
Berberis thunbergii							+ Tilia americana		X					Carex						
Betula alleghaniensis							Ulmus americana		X					Carex						
Betula papyrifera							Ulmus							Carex						
Carpinus caroliniana							Vaccinium							Carex						
Carya cordiformis							Viburnum lentago		X					Carex						
Celastrus scandens							Viburnum opulus							Cyperus						
Cornus alternifolia							Viburnum							Cyperus						
Cornus amomum							Vitis riparia							Dactylis glomerata						
Cornus rugosa							<i>Zanthoxylum</i>							Danthonia spicata						
Cornus stolonifera		X					<i>americanum</i>			X				Echinochloa crus-galli						
Corylus cornuta							<i>Crataegus mollis</i>			X				Eleocharis erythropoda						
Crataegus monogyna														Eleocharis						
Crataegus punctata														Elymus virginicus						
Crataegus sp.														Elymus						
Crataegus														Festuca arundinacea						
Diervilla lonicera														Glyceria striata			X			
Fagus grandifolia														Glyceria						
Fraxinus americana		X												Juncus dudleyi						
Fraxinus nigra							FERNS							Juncus effusus						
Fraxinus pennsylvanica							Adiantum pedatum							Juncus tenuis						
Ilex verticillata							Athyrium filix-femina							Juncus						
Juglans cinerea							Botrychium multifidum							Juncus						
Juglans nigra							Botrychium virginianum							Leersia oryzoides						
Lonicera morrowi							Cystopteris bulbifera							Muhlenbergia						
Lonicera tatarica							Dryopteris carthusiana							Oryzopsis asperifolia						
Lonicera							Dryopteris cristata							Panicum						
Malus pumila							Dryopteris marginalis							Panicum						
Ostrya virginiana		X					Dryopteris							Phalaris arundinacea						
Parthenocissus inserta		X					Equisetum arvense							Phleum pratense						
Populus balsamifera							Equisetum hyemale							Phragmites australis						
Populus grandidentata							Equisetum variegatum							Poa compressus						
Populus tremuloides							Equisetum							Poa pratensis						
Populus <i>deltoides</i>		X					Gymnocarpium dryopteris							Poa						
Prunus pennsylvanica							Lycopodium digitatum							Scirpus atrovirens						
Prunus serotina							Lycopodium obscurum							Scirpus cyperinus						
Prunus virginiana							Lycopodium							Scirpus validus						
Prunus							Lycopodium							Scirpus						
Quercus macrocarpa							Matteucia struthiopteris							Scirpus						
Quercus rubra							Onoclea sensibilis		X					Setaria						
Quercus							Osmunda cinnamomea							Sparganium						
Rhamnus cathartica		X					Osmunda regalis							Typha angustifolia						
Rhus radicans		X					Polystichum acrostichoides							Typha latifolia						
Rhus typhina							Pteridium aquilinum							Typha X glauca						
Ribes americana							Thelypteris palustris													
Ribes cynosbati																				
Ribes x rubrum																				
Robinia pseudo-acacia																				
<i>Cornus racemosa</i>		X																		
<i>Ribes triste</i>		X																		
<i>Acer framanii</i>		X																		

ELC Plant Species List	SITE: GSH 1068
	POLYGON: ① FM Aw Mx Ew FOD
	DATE: Aug. 12/11
	SURVEYOR(S): SAM

LAYERS: 1 = CANOPY 2 = SUB-CANOPY 3 = UNDERSTORY 4 = GROUND (GRD.) LAYER

ABUNDANCE CODES: R = RARE O = OCCASSIONAL A = ABUNDANT D = DOMINANT

SPECIES CODE	LAYER				COLL.
	1	2	3	4	
Ms					
Bd					
EW					
Aw					
Grey Dogwood					
Pan. Aster					
Sm Red Currant					
R.O. Dog.					
Gayle Mast.					
Rasp.					
6 End. Ntshc					
Max					
Faulmannia					
Jack					
Yell. Greens.					
Com Buck.					
Calico					
Pl					
Wood Strowb.					
Vrg. Creeper					
Herb Robt					
Carex cristatella					
Song. Fern					
Nannyberry					
Prickly Ash					
Crataegus (big leaf)					
1 Cotton wood					

[illegible]

ELC WILDLIFE	SITE: <u>GSH 1068</u>		
	POLYGON: <u>D</u>		
	DATE: <u>Aug 12/11</u>		
	SURVEYORS: <u>5AM</u>		
	START TIME: <u>1212h</u>	END TIME: <u>1436</u>	
TEMP (°C): <u>28</u>	CLOUD (10th): <u>4</u>	WIND: <u>1</u>	PRECIPITATION: <u>NI</u>
CONDITIONS: <u>not, light breeze, wispy clouds</u>			
POTENTIAL WILDLIFE HABITAT:			
☒	VERNAL POOLS	☒	SNAGS
☐	HIBERNACULA	☒	FALLEN LOGS

SPECIES LIST:

TY	SP. CODE	EV	NOTES	#	TY	SP. CODE	EV	NOTES	#
B	SOSP	OB		1					
L	Monarch	OB		2					
B	Tuvu	OB		1					
B	BCGC	VO		1					
L	Red Spotted Purple	OB		1					
L	Giant Swallowtail	OB		2					
B	RTHA	OB		1					
B	INBU	SM		1					

FAUNAL TYPE CODES (TY):

B = BIRD M = MAMMAL H = HERPETOFAUNA L = LEPIDOPTERA F = FISH O = OTHER

EVIDENCE CODES (EV):
BREEDING BIRD - POSSIBLE:

SH = SUITABLE HABITAT

SM = SINGING MALE

BREEDING BIRD - PROBABLE:

T = TERRITORY

D = DISPLAY

P = PAIR

A = ANXIETY BEHAVIOUR

N = NEST BUILDING

V = VISITING NEST

BREEDING BIRD - CONFIRMED:

DD = DISTRACTION

NU = USED NEST

FY = FLEDGED YOUNG

NE = EGGS

NY = YOUNG

FS = FOOD/FECAL SACK

AE = NEST ENTRY

OTHER WILDLIFE EVIDENCE:

OB = OBSERVED

VO = VOCALIZATION

CA = CARCASS

DP = DISTINCTIVE PARTS

HO = HOUSE/DEN

FY = EGGS/YOUNG

TK = TRACKS

FE = FEEDING EVIDENCE

SC = SCAT

SI = OTHER SIGNS (specify)





- Legend**
- Property Boundary
 - GE Turbine
 - ELC Completed 2011
 - Natural Feature and ID
 - ELC Polygon Boundary
 - Disturbance Areas
 - Area of Disturbance, plus 10m
 - ANSI
 - Evaluated Wetlands - PSW
 - ABCA Watercourse



Base mapping from Ontario Ministry of Natural Resources
Orthophotography 2010



Metres
0 25 50 100
UTM Zone 17N, NAD 83
1:2,500

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ELC
Goshen Amphibian Survey
177 GSH1068
South
April 2012
Project 6045032

AECOM

Figure 1

Page 1 of 2

D - Dominant represented by large numbers, generally forming >10% ground cover or >25% vegetation cover in any one stratum
F - Fairly common (=Abundant in ELC) generally widespread represented by fairly large numbers of individual clumps, usually forming >10% ground cover
U - Uncommon (=Occasional in ELC) present as widespread scattered individuals or represented by one or more clumps of many individuals (most species will fall into this category)
R - Rare represented in the sample by less than about five individuals or small clumps

Map Number: 177. GSHAD
Date: April 16, 2012
Surveyors: Matt P. / Tom C.

Page 2 of 2

D - Dominant represented by large numbers, generally forming >10% ground cover or >25% vegetation cover in any one stratum
F - Fairly common (=Abundant in ELC) generally widespread represented by fairly large numbers of individual clumps, usually forming >10% ground cover
U - Uncommon (=Occasional in ELC) present as widespread scattered individuals or represented by one or more clumps of many individuals (most species will fall into this category)
R - Rare represented in the polygon by less than about five individuals or small clumps

Map Number: 137 CHICKS	1	007-2	4						
Date:	2		6						
Surveyors:	3								

Significant Wildlife Habitat Form

AECOM

Study Area:	BLW	JER	(GSH)	Map #:	177-GSH/068
Date:	2012/04/16			Time Started:	9:30
Field Staff:	Tom Sharney / Jess D. P. H.			Time Finished:	1:15
Weather Conditions: Windy (45 km/h), cloudy, 20°C					

Colonial Nesting Tree/Shrub Birds, Osprey Breeding/Feeding, Bald Eagle Breeding/Nesting Habitat
(FET1, FOC, FOM, FOD, SWC, SWM, SWD)

Nest bowls present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Number of nests: _____

Description of nests (location, e.g. in tree/on built structure; material; evidence of recent use; birds present): _____

Description of habitat (note riparian areas if present, evidence of disturbance): _____

Waterfowls Stopover/Nesting, Amphibian Breeding, Turtle Nesting/Over-wintering, Marsh Breeding Birds
(CUM1, CUT1, MAM, MAS, SAS1, SAM1, SAF1, SWD, SWT1, SWT2) (FOC, FOM, FOD, SWC, SWM, SWD, BOO1, FE01)

Standing water present: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Area of standing water delineated on field map: _____

Water depth (m): _____ % open water: _____ % emergent vegetation: _____

Description of standing water (permanent pool, evidence of annual spring flooding, etc): _____

Area and soil/substrate of shoreline habitat: _____

Type and abundance of cover in open water habitat: _____

Type and abundance of cover in surrounding habitat: _____

Evidence of disturbance (e.g. cattle grazing): _____

Evidence of use by waterfowl, amphibians, turtles (e.g. broken eggs), marsh breeding birds: _____

Complete Vernal Pool Habitat Description Form

Snake Hibernacula

Fissured rock/foundation or rock/debris pile present: ☐ No ☒ Yes (if yes, photograph and complete the following)

UTMs: 0438276 4788073 Likelihood to extend below frost line: _____

% canopy cover: 20% % slope: 10% Distance to open canopy (m): 1m

Description of fissure or stone pile (composition/material, dimensions, etc): Long, varies from small pebbles to large boulders - Abundant sun exposure

Description of surrounding habitat (type & abundance of cover, evidence of disturbance, etc): Cultural meadow.

Seeps and Springs
(FOC, FOM, FOD, SWC, SWM, SWD)

Evidence of seep or spring: ☒ No ☐ Yes (if yes, photograph and complete the following)

UTMs: _____ Description (indicator species, etc): _____

NHA Site Investigation - Significant Wildlife Habitat Form

AECOM

Colonial Nesting Bird Breeding Habitat (Bank and Cliff Swallows)

(CUM1, CUT1, CUS, BLO1, BLS1, BLT1, CLO1, CLS1, CLT1)

Eroding bank, sandy hill, pits, steep slope or rock face present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Location (e.g. aggregate pit, bridge): _____

Evidence of use by bank or cliff swallows (provide number of nests): _____

Colonial Nesting Ground Breeding Birds, Shorebird Migratory Stopover Areas

(BBO1, BBO2, BBS1, BBS2, BBT1, BBT2, SDO1, SDS2, SDT1, MAM1, MAM2, MAM3, MAM4, MAM5)

Shoreline of lake, large river or large wetland present:

☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Rocky island or peninsula present: _____

Mudflat present: _____

Evidence of disturbance (e.g. cattle grazing): _____

Description of habitat (size of rocky outcrop/mudflat, substrate/soil type, type and abundance of cover): _____

Raptor Winter Feeding and Roosting, Open Country or Shrub/Early Successional Bird Breeding Habitat

CUT1, CUS1, >30ha, CUM1 >30ha, FOC, FOD, FOM with a CUM, CUT, CUS, CUW > 20ha, or a CUM, CUS, CUT, CUW>15ha

Large meadow, old field or generally open habitat (e.g. CUM, CUS, CUT, CUS, CUW) present:

Large open habitat present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Evidence of disturbance (e.g. cattle grazing): _____

Description of habitat (abundance of food plants for rodents, abundance of perches, height of vegetation): _____

Old-growth or Mature Forests, Interior Forest Breeding Birds

(FOD, FOC, FOM, SWC, SWM, SWD. Mature forest (>60 years) present)

Mature forest present: ☒ No

☐ Yes (if yes, photograph and complete the following)

UTMs: _____

Age of oldest trees: _____

Evidence of disturbance (e.g. selective cutting): _____

Description of habitat (structural complexity, abundance of snags and/or downed woody debris, etc): _____

Photo #	Location or Subject	Photo #	Location or Subject

A:CM

Time Started:

Time Finished: 11:50

Observed Species List

[illegible]

Note:	Evidence Codes (EV)	Breeding Bird (Possible)	SH=Suitable Habitat, SM=Singing Male:

Breeding Bird (Probable)
T-Territory, D=Display, P=Pair, N=Nest Building, V= Visiting Nest: A=Anxiety Behavior:

Breeding Bird (Confirmed)
DD=Distraction, NU=Used Nest, FY=Fledged Young, NE=Eggs, NY=Young, FS=Faeces/Faecal sack, AE=Nest Entry

Other Wildlife Evidence: OB=observed, VO=Vocalization, CA=Carcass, DP=Distinctive Parts, HO=House/Den, FY=Eggs/young, TK=tracks, FE=Feeding evidence, SC= Scat, SI=Other signs (specify)

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
PLANTS			
FOD7	American Gromwell (<i>Lithospermum latifolium</i>) - S3 <u>Bloom Time</u> - Spring	Shaded river banks, wooded floodplains. River floodplains, woods and edges of woods.	Y N UTM: <u>N/O</u>
ALO, TPO	Muehlenberg's astomum moss (<i>Astomum muehlenbergianum</i>) - S2 <u>Bloom Time</u> - Spring	Thin soil over level outcrop ledges and on soil under grasses in open prairie	Y N UTM:
FOM1, FOM2, CUP3	Autumn Coral-root (<i>Corallorhiza odontorhiza</i>) - S2 <u>Bloom Time</u> - summer to fall	Oak-pine woods or occasionally in open, red pine or white pine plantations. Dry, sandy woods.	Y N UTM:
FOC, FOM, FOD	Burning Bush (<i>Euonymus atropurpureus</i>) - S3 <u>Bloom Time</u> - April - June	Species occurs in dry to moist deciduous thickets and woods	Y N UTM: <u>N/O</u>
SWC1, SWC3, SWC4, SWM1, SWM2, SWM4, SWM5, SWM6	Chinese Hemlock Parsley (<i>Conioselinum chinense</i>) - S2 <u>Bloom Time</u> - summer to fall	Swampy places with deciduous trees, white cedars, tamarack; springy river banks, wet borders of streams and rivers. Also found among calcareous seepage slopes.	Y N UTM:
SWC, SWM, SWD, SWT, MAM, MAS	Crowned Beggaricks (<i>Bidens trichosperma</i>) - S2 <u>Bloom Time</u> - late summer	Found in openings in swamps, marshes, along shores & wet fields within the Carolinian zone and southeastern Georgian bay. Bogs, fens, tamarack swamps	Y N UTM:
ALT1, FOD7	Eastern Green-violet (<i>Hybanthus concolor</i>) - S2 <u>Bloom Time</u> - mid March to August	Occurs in rich, wet-mesic floodplain forests as well as mesic forests over limestone. Includes floodplains and river banks.	Y N UTM: <u>N/O</u>
TPS, TPW, FOM1, FOM2	Fogg's Goosefoot (<i>Chenopodium foggii</i>) - S2	Species occurs in sandy areas on limestone under oak or pine-oak forests	Y N UTM:
TPO2, TPS2, TPW2,	Giant Ironweed (<i>Vernonia gigantea</i>) - S1? <u>Bloom Time</u> -	Found in mesic prairies, thickets, moist woods, roadsides and grassy meadows	Y N UTM:

Species of Conservation Concern Habitat and Incidental Wildlife – Goshen

AECOM

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
CUM1, MAM,	June–August		
FOD6, FOD7, FOD9	Green Dragon (<i>Arisaema dracontium</i>) - SC/S3 <u>Bloom Time</u> - May and June	Species found in damp, deciduous forest and along river streams. Particularly Maple forest and forest dominated by Red Ash and White Elm.	(Y) N UTM: n/o
TP01, TPS1, TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Hairy Bedstraw (<i>Galium pilosum</i>) - S3 <u>Bloom Time</u> - June–August	Occurs in dry, sandy woods and thickets; occasionally in dry sandy fields	(Y) N UTM:
FE01, FES1, FET1, SWC, SWM, SWD, SWT, TPO, TPS, TPW,	Hairy Valerian (<i>Valeriana edulis</i>) - S1 <u>Bloom Time</u> - June to August	Inhabits swampy river flats and meadows, wet prairies, and wooded, rocky riverbanks and fens	(Y) N UTM:
FOD6 (FOD7), SWM, SWD	Hairy Wood Mint (<i>Blephilia hirsuta</i>) - S1 <u>Bloom Time</u> - Summer	Woodlands, often rocky, especially rivers. Rich woods, swamp forests, floodplains.	(Y) N UTM: n/o
FOD6 (FOD7), FOD8, FOD9	Harbinger-of-spring (<i>Eigenia bulbosa</i>) - S3 <u>Bloom Time</u> - early to late April	Occurs in rich, moist deciduous woods, especially on floodplains.	(Y) N UTM:
SAS1, SAM1, SAF1	Hill's Pond Weed (<i>Potamogeton hillii</i>) - SC/S2 <u>Bloom Time</u> - summer	Aquatic plant found in highly alkaline waters of ditches, ponds, beaver ponds, and slow-moving cold waters.	(Y) N UTM:
FOM6, FOM7, FOM8	Large Round-leaved Orchid (<i>Platanthera macrophylla</i>) - S2 <u>Bloom Time</u> - June to August	Species inhabits moist mixed woods. Found in fairly mature, upland sugar maple-beech-eastern hemlock woodlands.	(Y) N UTM:
MAM2, MAM3, MAS2, MAS3, SWD	Lizard's Tail (<i>Saururus cernuus</i>) - S3 <u>Bloom Time</u> - June - September	Species inhabits shores and streambanks along shallow water. As well as swamps, floodplains, shallow water and mudflats at the borders of streams and ponds.	(Y) N UTM:
FOD6, FOD7, FOD9	Pawpaw (<i>Asimina triloba</i>) - S3 <u>Bloom Time</u> - March–May	Occurs in moist deciduous woods and stream banks.	(Y) N UTM: n/o
FOM8, FOD6 (FOD7), FOD9, CUM1	Pilose Evening Primrose (<i>Oenothera plesellia</i>) - S2 <u>Bloom Time</u> - Late Spring - Early Summer	Moist edges of woods and open, disturbed ground.	(Y) N UTM: n/o
TPW1, FOM1, FOM2, FOD1, FOD2, FOD3	Prostrate Tick-trefoil (<i>Desmodium rotundifolium</i>) - S2 <u>Bloom Time</u> - July–September	Dry, sandy or rocky woods	(Y) N UTM:
FOD7, SWD	Pumpkin Ash (<i>Fraxinus profunda</i>) - S2? <u>Bloom Time</u> - March - June	Swamps and floodplains	(Y) N UTM: n/o
CUM1, ALO, FET1, SWC	Ram's-head Lady's-slipper (<i>Cypripedium arietinum</i>) - S3 <u>Bloom Time</u> - mid May to mid June	Found in cedar woodlands, limestone plains and wooded fens, moist coniferous swamps, dry sandy woods, and limestone barren	(Y) N UTM:
FOD1, FOD2, FOD3, FOD4, FOD5, FOC1, FOM1, FOM5	Rattlesnake Hawkweed (<i>Hieracium venosum</i>) - S2 <u>Bloom Time</u> - April - September	Species inhabits open, dry sandy woods. Jack pine, oak, and aspen woodlands	(Y) N UTM:
FOD6, FOD7, FOD9	Round-leaved Groundsel (<i>Packera obovata</i>) - S3 <u>Bloom Time</u> - May - June	Found in moist woods	(Y) N UTM: n/o
CUM1, CUT1, CUS1	Round-leaved hawthorn (<i>Crataegus lumaria</i>) - S3?	Species occurs in old fields, poorly managed pastures, fencelines and roadsides	(Y) N UTM:
FOD6, FOD7, FOD8, FOD9, SWT2, SWT3	Scarlet Beebalm (<i>Monarda didyma</i>) - S3 <u>Bloom Time</u> - May to October	Found in moist, rich woods, thicket swamps, banks and floodplains.	(Y) N UTM: n/o
ALO, ALS, ALT, TPO, TPS, TPW	Slender Blazing Star (<i>Liatris cylindracea</i>) - S3	Species occurs in limestone and dolostone pavement, prairies, open woods, alvars and moist sandy meadows.	(Y) N UTM:
SBO, SBS, SBT, TPO1, TPS1, TPW1, FOD1, FOD2	Slender Knotweed (<i>Polygonum tenue</i>) - S2	Found in dry, sandy, open areas in deciduous (often oak woods), prairie meadows; at edges of sand pits	(Y) N UTM:
SDT1, FOD5, FOD9	Slim-flowered Muhly (<i>Muhlenbergia tenuiflora</i>) - S2	Found in rich deciduous forest, often on rocky or sandy soils, wooded dunes, hillsides, and riverbanks whether in oak or beech-maple woods	(Y) N UTM:
BLO1, BLS1, BLT1, TPO2, TPS2, TPW2, MAM2, FOD7	Stiff Gentian (<i>Gentianella quinquefolia</i>) - S2 <u>Bloom Time</u> - late summer to mid fall	Found in moist soils of streambanks, edges of woods, wet prairies, marshy meadows, bays, and wooded hillsides.	(Y) N UTM: n/o
TPS1, TPW1, CUW1, RBO, SBO	Sundial Lupine (<i>Lupinus perennis</i>) - S3 <u>Bloom Time</u> - mid-March to mid-June	Inhabits dry, sandy oak savannahs, prairies, open barrens or clearings in woodlands of oak, jack pine, and/or aspen.	(Y) N UTM:

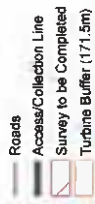
Species Conservation Concern Habitat and Incidental Wildlife – Goshen

ADOM

ELC	Species	Habitat Description	Habitat Present (Y/N; UTM; description of habitat if present)
TP01, TPS1, TPW1, CUM1	Tall Blazing Star (<i>Liatris aspera</i>) - S3/SC	Occurs in open, sandy woods, dry roadsides and sandy prairies	Y N UTM
FE0, FES, FET, MAM2, MAM3	Tuberous Indian Plantain (<i>Amoglossum plantaginifolium</i>) - S3 Bloom Time – mid-March to mid-June	Occurs mainly in flat, sandy areas of the Bruce Peninsula. Fens, wet meadows, and calcareous river flats.	Y N UTM
FOC1, FOC2, FOC3, FOC4	Woodland Pinelrops (<i>Pterospora andromedea</i>) - S2 Bloom Time – summer	Found in conifer woods, under pines, but also hemlock, spruce, fir, and white cedar. In dry or rocky soil, often with common juniper and sometimes aspen or birch.	Y N UTM
CUM1, CUT1, CUW1, RBO1, SBO1	Yellow Ladies'-tresses (<i>Spiranthes ochroleuca</i>) - S2 Bloom Time – August to November	Dry, open sites, usually on acidic sandy soil, dry to mesic open woodland, thickets, meadows, barrens, ledges, outcrops, banks and roadsides, old fields.	Y N UTM
BIRDS			
-	Bald Eagle (<i>Haliaeetus leucocephalus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUW, SDO, RBO, TPS	Common Nighthawk (<i>Chordeiles minor</i>) - SC	Hunts insects over a wide variety of habitats, in particular open or semi-open areas. Nests on ground in a wide range of open, sparse or vegetation-free habitats.	Y N UTM
FOD, FOM	Louisiana Waterthrush (<i>Selurus motacilla</i>) - SC	Inhabits mature forests along steeply sloped ravines adjacent to running water. Trees, bushes, exposed roots, cliffs, banks and mossy logs are favoured nesting spots. Riparian woodlands are preferred stopover sites during migration	Y N UTM
FOD, CUW, CUT	Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>) - SC	Species inhabits open woodland/ edges (oak savannahs and riparian forest), open, deciduous forest with little understory, fields or pasture lands with scattered large trees; wooded swamps; orchards, small woodlots or forest edges; groves of dead or dying trees; requires cavity trees with at least 40 cm dbh; requires about 4 ha for a territory.	Y N UTM
-	Short Eared Owl (<i>Asio flammeus</i>) - SC	Assessed as SWH. Record species if found.	not required.
CUT1	Yellow-breasted Chat (<i>Icteria virens</i>) - SC	Inhabits thickets, tall tangles of shrubbery beside streams, ponds; overgrown bushy clearings with deciduous thickets; nests above ground in bush, vines	Y N UTM
REPTILES			
-	Eastern Ribbonsnake (<i>Thamnophis sauritus</i>) - SC	Assessed as SWH. Record species if found.	not required.
-	Milksnake (<i>Lampropeltis triangulum</i>) -SC	Assessed as SWH. Record species if found.	not required.
-	Snapping Turtle (<i>Chelydra serpentina</i>) - SC	Assessed as SWH. Record species if found.	not required.
INSECTS			
OAO, SA, SWM, SWD	Azure Bluett (<i>Enallagma aspersum</i>) -S3	Species inhabits fishless ponds, lakes and boggy swamps	Y N UTM
TPS, TPW	Sleepy Duskywing (<i>Erynnis brizeo</i>) - S1	Occurs in oak/oak-pine scrub, chaparral, barrens, well-drained sandy or shaly soils. Species regularly seen at flowers in oak woods, on the ground, and at mud puddles	Y N UTM
CUM1, CUT1, CUW1	Monarch Butterfly (<i>Danaus plexippus</i>) - SC	Their larvae only feed on milkweeds (<i>Asclepius</i> spp.). Habitat includes abandoned farmland, along roadsides, open spaces where these plants grow	Y N UTM
TPS, CUW	Mottled Duskywing (<i>Erynnis martialis</i>) -S2	Usually seen nectaring or on wet sandy roads. Larvae feeds on New Jersey Tea and adults only likely near where this plant is present	Y N UTM
SWT, SWD, SWM, FOM, FOD4-3, TPW, TPS, CUM1	Tawny Emperor (<i>Asterocampa clyten</i>) - S3	Species inhabits densely wooded riparian areas, dry woods, open woods, fencerows and parks. Usually occurs near Hackberry, the larval foodplant	Y N UTM
FOD5	West Virginia White (<i>Pieris virginianensis</i>) - SC	This species is restricted to rich, moist, deciduous woods, where its foodplant Toothwort occur	Y N UTM

(Properties that contain Features within 125m from Collection lines and 171.5m from Turbines)

A vertical scale bar with markings at 0, 25, 50, and 100 Meters.



 ELC Survey Completed
 Turbine Buffer/Feature Intersect
 Property Fabric
 Goshan Wind Energy Centre



1892 GSH1023

Goshen ELC, GE64



na. #24/35
Not shagbark

440036
478967
Wetland
packet

FUD with
SWAMPY
MARE

GSH1023

Location: 6E64

Date: July 12, 2011

Observer

Job Number:

1: FDD 5-5

2 SWD 3-1

3

4.

5

6

SITE LOCATIONS

CONIFERS						TREES and SHRUBS						GRAMINOIDS					
1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Abies balsamea						+ Rosa multiflora						Agrostis gigantea					
Juniperus communis						Rosa						Agrostis stolonifera					
Juniperus virginiana						Rubus alleghaniensis						Agropyron repens					
Larix laricina						Rubus idaeus						Alopecurus					
Picea abies						Rubus occidentalis						Bromus laevis					
Picea glauca						Rubus odoratus						Calamagrostis canadensis					
Pinus resinosa						Rubus pubescens						Carex acutata					
Pinus strobus						Salix alba						Carex aurea					
Pinus sylvestris						Salix amygdaloides						Carex bebbii					
Thuja occidentalis						Salix bebbiana						Carex blanda					
Tsuga canadensis						+ Salix discolor						Carex gracillima					
						Salix eriocephala						Carex granularis					
						Salix exigua						Carex hystrix					
						Salix lucida						Carex pennsylvanica					
						Salix petiolaris						Carex radiata					
TREES and SHRUBS						+ Salix purpurea						Carex retrofracta					
Acer negundo						Salix x rubens						Carex stipitata					
Acer rubrum						+ Salix						Carex stricta					
Acer saccharinum						Sambucus canadensis						Carex vulpinoides					
Acer saccharum						Sambucus racemosa						Carex <i>ulmifolia</i>					
Acer spicatum						Sorbus aucuparia						Carex <i>sp.</i>					
Alnus rugosa						Spiraea alba						Carex					
Amelanchier						Syringa vulgaris						Carex					
Berberis thunbergii						+ Tilia americana						Carex					
Betula alleghaniensis						Ulmus americana						Carex					
Betula papyrifera						Ulmus						Carex					
Carpinus caroliniana						Vaccinium						Carex					
Carya cordiformis						Viburnum lentago						Cyperus					
Celastrus scandens						Viburnum opulus						Cyperus					
Cornus alternifolia						Viburnum						Dactylis glomerata					
Cornus amomum						Vitis riparia						Danthonia spicata					
Cornus rugosa												Echinochloa crus-galli					
Cornus stolonifera												Eleocharis erythropoda					
Corylus corata												Eleocharis					
Crataegus monogyna												Elymus virginicus					
Crataegus punctata												Elymus					
Crataegus sp.												Festuca arundinacea					
Crataegus												Glyceria striata					
Diervilla lonicera												Glyceria					
Fagus grandifolia												Juncus dudleyi					
Fraxinus americana												Juncus effusus					
Fraxinus nigra						FERNS						Juncus tenuis					
Fraxinus pennsylvanica						Adiantum pedatum						Juncus					
Ilex verticillata						Athyrium filix-femina						Juncus					
Juglans cinerea						Botrychium multifidum						Juncus					
Juglans nigra						Botrychium virginianum						Leersia oryzoides					
Lonicera mackenzii						Cystopteris bulbifera						Muhlenbergia					
Lonicera tatarica						Dryopteris carthusiana						Oryzopsis asperifolia					
Lonicera						Dryopteris cristata						Panicum					
Malus pumila						Dryopteris marginalis						Panicum					
Ostrya virginiana						Dryopteris						Phalaris arundinacea					
Parthenocissus litoralis						Equisetum arvense						Phlox pilularis					
Populus balsamifera						Equisetum hyemale						Phragmites australis					
Populus grandidentata						Equisetum variegatum						Poa compressa					
Populus tremuloides						Equisetum						Poa pratensis					
Populus <i>alberta</i>						Gymnocarpium dryopteris						Poa					
Prunus pennsylvanica						Lycopodium digitatum						Scirpus atrovirens					
Prunus serotina						Lycopodium obscurum						Scirpus cyperinus					
Prunus virginiana						Lycopodium						Scirpus validus					
Prunus						Lycopodium						Scirpus					
Quercus macrocarpa						Mattucia struthiopteris						Scirpus					
Quercus rubra						Oenothera biennis						Setaria					
Quercus						Oenothera cinnamomea						Sparganium					
Rhamnus cathartica						Oenothera lutea						Typha angustifolia					
Rhus radicans						Polystichum acrostichoides						Typha latifolia					
Rhus typhina						Parthenocissus vitacea						Typha x glauca					
Ribes americana						Thelypteris palustris											
Ribes cynosbati																	
Ribes x rubrum																	
Robinia pseudo-acacia																	
<i>Carya ALATA</i>																	

* Salamander habitat *



59300000 3110 535217M1142

ELC

Community
Description and
Classification

Site: GTH 65 Polygon: U1

Surveyor(s): RM Date: July 13, 2011 Time start: 2pm finish:

UTMZ: UTMZ: UTMN:

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
☒ Terrestrial	☐ Organic	☐ Lacustrine	☐ Plankton	☐ Lake
☐ Wetland	☐ Mineral Soil	☐ Riverine	☐ Submerged	☐ Pond
☐ Aquatic	☐ Parent Min.	☐ Bottomland	☐ Floating-LVD	☐ River
Site	☐ Acidic Bedrk	☐ Terrace	☐ Graminoid	☐ Stream
☐ Open Water	☐ Basic Bedrk	☐ Valley Slope	☐ Forb	☐ Marsh
☐ Shallow Water	☐ Carb. Bedrk	☐ Tableland	☐ Lichen	☐ Swamp
☐ Surficial Dep.		☐ Roll. Upland	☐ Bryophyte	☐ Fen
☐ Bedrock		☐ Cliff	☐ Deciduous	☐ Bog
History		☐ Telus	☐ Coniferous	☐ Barren
☐ Natural		☐ Crevice/Cave	☐ Mixed	☐ Meadow
☐ Cultural		☐ Avar		☐ Prairie
Cover		☐ Rockland		☐ Thicket
☐ Open		☐ Beach / Bar		☐ Savannah
☐ Shrub		☐ Sand Dune		☐ Woodland
☒ Tree		☐ Bluff		☐ Forest
				☐ Plantation

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp)
1	2	4	<u>Bitternut</u>
2	3	2	<u>Hardwood</u>
3	6	3	<u>Maple</u>
4			<u>White Birch</u>

HT Codes: 7 < 0.2m 8 > 0.2-0.5m 9 > 0.5-1m 10 > 1-2m 11 > 2-3m 12 > 3-4m 13 > 4-5m 14 > 5-6m 15 > 6-7m 16 > 7-8m 17 > 8-9m 18 > 9-10m 19 > 10-11m 20 > 11-12m 21 > 12-13m 22 > 13-14m 23 > 14-15m 24 > 15-16m 25 > 16-17m 26 > 17-18m 27 > 18-19m 28 > 19-20m 29 > 20-21m 30 > 21-22m 31 > 22-23m 32 > 23-24m 33 > 24-25m 34 > 25-26m 35 > 26-27m 36 > 27-28m 37 > 28-29m 38 > 29-30m 39 > 30-31m 40 > 31-32m 41 > 32-33m 42 > 33-34m 43 > 34-35m 44 > 35-36m 45 > 36-37m 46 > 37-38m 47 > 38-39m 48 > 39-40m 49 > 40-41m 50 > 41-42m 51 > 42-43m 52 > 43-44m 53 > 44-45m 54 > 45-46m 55 > 46-47m 56 > 47-48m 57 > 48-49m 58 > 49-50m 59 > 50-51m 60 > 51-52m 61 > 52-53m 62 > 53-54m 63 > 54-55m 64 > 55-56m 65 > 56-57m 66 > 57-58m 67 > 58-59m 68 > 59-60m 69 > 60-61m 70 > 61-62m 71 > 62-63m 72 > 63-64m 73 > 64-65m 74 > 65-66m 75 > 66-67m 76 > 67-68m 77 > 68-69m 78 > 69-70m 79 > 70-71m 80 > 71-72m 81 > 72-73m 82 > 73-74m 83 > 74-75m 84 > 75-76m 85 > 76-77m 86 > 77-78m 87 > 78-79m 88 > 79-80m 89 > 80-81m 90 > 81-82m 91 > 82-83m 92 > 83-84m 93 > 84-85m 94 > 85-86m 95 > 86-87m 96 > 87-88m 97 > 88-89m 98 > 89-90m 99 > 90-91m 100 > 91-92m 101 > 92-93m 102 > 93-94m 103 > 94-95m 104 > 95-96m 105 > 96-97m 106 > 97-98m 107 > 98-99m 108 > 99-100m 109 > 100-101m 110 > 101-102m 111 > 102-103m 112 > 103-104m 113 > 104-105m 114 > 105-106m 115 > 106-107m 116 > 107-108m 117 > 108-109m 118 > 109-110m 119 > 110-111m 120 > 111-112m 121 > 112-113m 122 > 113-114m 123 > 114-115m 124 > 115-116m 125 > 116-117m 126 > 117-118m 127 > 118-119m 128 > 119-120m 129 > 120-121m 130 > 121-122m 131 > 122-123m 132 > 123-124m 133 > 124-125m 134 > 125-126m 135 > 126-127m 136 > 127-128m 137 > 128-129m 138 > 129-130m 139 > 130-131m 140 > 131-132m 141 > 132-133m 142 > 133-134m 143 > 134-135m 144 > 135-136m 145 > 136-137m 146 > 137-138m 147 > 138-139m 148 > 139-140m 149 > 140-141m 150 > 141-142m 151 > 142-143m 152 > 143-144m 153 > 144-145m 154 > 145-146m 155 > 146-147m 156 > 147-148m 157 > 148-149m 158 > 149-150m 159 > 150-151m 160 > 151-152m 161 > 152-153m 162 > 153-154m 163 > 154-155m 164 > 155-156m 165 > 156-157m 166 > 157-158m 167 > 158-159m 168 > 159-160m 169 > 160-161m 170 > 161-162m 171 > 162-163m 172 > 163-164m 173 > 164-165m 174 > 165-166m 175 > 166-167m 176 > 167-168m 177 > 168-169m 178 > 169-170m 179 > 170-171m 180 > 171-172m 181 > 172-173m 182 > 173-174m 183 > 174-175m 184 > 175-176m 185 > 176-177m 186 > 177-178m 187 > 178-179m 188 > 179-180m 189 > 180-181m 190 > 181-182m 191 > 182-183m 192 > 183-184m 193 > 184-185m 194 > 185-186m 195 > 186-187m 196 > 187-188m 197 > 188-189m 198 > 189-190m 199 > 190-191m 200 > 191-192m 201 > 192-193m 202 > 193-194m 203 > 194-195m 204 > 195-196m 205 > 196-197m 206 > 197-198m 207 > 198-199m 208 > 199-200m 209 > 200-201m 210 > 201-202m 211 > 202-203m 212 > 203-204m 213 > 204-205m 214 > 205-206m 215 > 206-207m 216 > 207-208m 217 > 208-209m 218 > 209-210m 219 > 210-211m 220 > 211-212m 221 > 212-213m 222 > 213-214m 223 > 214-215m 224 > 215-216m 225 > 216-217m 226 > 217-218m 227 > 218-219m 228 > 219-220m 229 > 220-221m 230 > 221-222m 231 > 222-223m 232 > 223-224m 233 > 224-225m 234 > 225-226m 235 > 226-227m 236 > 227-228m 237 > 228-229m 238 > 229-230m 239 > 230-231m 240 > 231-232m 241 > 232-233m 242 > 233-234m 243 > 234-235m 244 > 235-236m 245 > 236-237m 246 > 237-238m 247 > 238-239m 248 > 239-240m 249 > 240-241m 250 > 241-242m 251 > 242-243m 252 > 243-244m 253 > 244-245m 254 > 245-246m 255 > 246-247m 256 > 247-248m 257 > 248-249m 258 > 249-250m 259 > 250-251m 260 > 251-252m 261 > 252-253m 262 > 253-254m 263 > 254-255m 264 > 255-256m 265 > 256-257m 266 > 257-258m 267 > 258-259m 268 > 259-260m 269 > 260-261m 270 > 261-262m 271 > 262-263m 272 > 263-264m 273 > 264-265m 274 > 265-266m 275 > 266-267m 276 > 267-268m 277 > 268-269m 278 > 269-270m 279 > 270-271m 280 > 271-272m 281 > 272-273m 282 > 273-274m 283 > 274-275m 284 > 275-276m 285 > 276-277m 286 > 277-278m 287 > 278-279m 288 > 279-280m 289 > 280-281m 290 > 281-282m 291 > 282-283m 292 > 283-284m 293 > 284-285m 294 > 285-286m 295 > 286-287m 296 > 287-288m 297 > 288-289m 298 > 289-290m 299 > 290-291m 300 > 291-292m 301 > 292-293m 302 > 293-294m 303 > 294-295m 304 > 295-296m 305 > 296-297m 306 > 297-298m 307 > 298-299m 308 > 299-300m 309 > 300-301m 310 > 301-302m 311 > 302-303m 312 > 303-304m 313 > 304-305m 314 > 305-306m 315 > 306-307m 316 > 307-308m 317 > 308-309m 318 > 309-310m 319 > 310-311m 320 > 311-312m 321 > 312-313m 322 > 313-314m 323 > 314-315m 324 > 315-316m 325 > 316-317m 326 > 317-318m 327 > 318-319m 328 > 319-320m 329 > 320-321m 330 > 321-322m 331 > 322-323m 332 > 323-324m 333 > 324-325m 334 > 325-326m 335 > 326-327m 336 > 327-328m 337 > 328-329m 338 > 329-330m 339 > 330-331m 340 > 331-332m 341 > 332-333m 342 > 333-334m 343 > 334-335m 344 > 335-336m 345 > 336-337m 346 > 337-338m 347 > 338-339m 348 > 339-340m 349 > 340-341m 350 > 341-342m 351 > 342-343m 352 > 343-344m 353 > 344-345m 354 > 345-346m 355 > 346-347m 356 > 347-348m 357 > 348-349m 358 > 349-350m 359 > 350-351m 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417-418m 427 > 418-419m 428 > 419-420m 429 > 420-421m 430 > 421-422m 431 > 422-423m 432 > 423-424m 433 > 424-425m 434 > 425-426m 435 > 426-427m 436 > 427-428m 437 > 428-429m 438 > 429-430m 439 > 430-431m 440 > 431-432m 441 > 432-433m 442 > 433-434m 443 > 434-435m 444 > 435-436m 445 > 436-437m 446 > 437-438m 447 > 438-439m 448 > 439-440m 449 > 440-441m 450 > 441-442m 451 > 442-443m 452 > 443-444m 453 > 444-445m 454 > 445-446m 455 > 446-447m 456 > 447-448m 457 > 448-449m 458 > 449-450m 459 > 450-451m 460 > 451-452m 461 > 452-453m 462 > 453-454m 463 > 454-455m 464 > 455-456m 465 > 456-457m 466 > 457-458m 467 > 458-459m 468 > 459-460m 469 > 460-461m 470 > 461-462m 471 > 462-463m 472 > 463-464m 473 > 464-465m 474 > 465-466m 475 > 466-467m 476 > 467-468m 477 > 468-469m 478 > 469-470m 479 > 470-471m 480 > 471-472m 481 > 472-473m 482 > 473-474m 483 > 474-475m 484 > 475-476m 485 > 476-477m 486 > 477-478m 487 > 478-479m 488 > 479-480m 489 > 480-481m 490 > 481-482m 491 > 482-483m 492 > 483-484m 493 > 484-485m 494 > 485-486m 495 > 486-487m 496 > 487-488m 497 > 488-489m 498 > 489-490m 499 > 490-491m 500 > 491-492m 501 > 492-493m 502 > 493-494m 503 > 494-495m 504 > 495-496m 505 > 496-497m 506 > 497-498m 507 > 498-499m 508 > 499-500m 509 > 500-501m 510 > 501-502m 511 > 502-503m 512 > 503-504m 513 > 504-505m 514 > 505-506m 515 > 506-507m 516 > 507-508m 517 > 508-509m 518 > 509-510m 519 > 510-511m 520 > 511-512m 521 > 512-513m 522 > 513-514m 523 > 514-515m 524 > 515-516m 525 > 516-517m 526 > 517-518m 527 > 518-519m 528 > 519-520m 529 > 520-521m 530 > 521-522m 531 > 522-523m 532 > 523-524m 533 > 524-525m 534 > 525-526m 535 > 526-527m 536 > 527-528m 537 > 528-529m 538 > 529-530m 539 > 530-531m 540 > 531-532m 541 > 532-533m 542 > 533-534m 543 > 534-535m 544 > 535-536m 545 > 536-537m 546 > 537-538m 547 > 538-539m 548 > 539-540m 549 > 540-541m 550 > 541-542m 551 > 542-543m 552 > 543-544m 553 > 544-545m 554 > 545-546m 555 > 546-547m 556 > 547-548m 557 > 548-549m 558 > 549-550m 559 > 550-551m 560 > 551-552m 561 > 552-553m 562 > 553-554m 563 > 554-555m 564 > 555-556m 565 > 556-557m 566 > 557-558m 567 > 558-559m 568 > 559-560m 569 > 560-561m 570 > 561-562m 571 > 562-563m 572 > 563-564m 573 > 564-565m 574 > 565-566m 575 > 566-567m 576 > 567-568m 577 > 568-569m 578 > 569-570m 579 > 570-571m 580 > 571-572m 581 > 572-573m 582 > 573-574m 583 > 574-575m 584 > 575-576m 585 > 576-577m 586 > 577-578m 587 > 578-579m 588 > 579-580m 589 > 580-581m 590 > 581-582m 591 > 582-583m 592 > 583-584m 593 > 584-585m 594 > 585-586m 595 > 586-587m 596 > 587-588m 597 > 588-589m 598 > 589-590m 599 > 590-591m 600 > 591-592m 601 > 592-593m 602 > 593-594m 603 > 594-595m 604 > 595-596m 605 > 596-597m 606 > 597-598m 607 > 598-599m 608 > 599-600m 609 > 600-601m 610 > 601-602m 611 > 602-603m 612 > 603-604m 613 > 604-605m 614 > 605-606m 615 > 606-607m 616 > 607-608m 617 > 608-609m 618 > 609-610m 619 > 610-611m 620 > 611-612m 621 > 612-613m 622 > 613-614m 623 > 614-615m 624 > 615-616m 625 > 616-617m 626 > 617-618m 627 > 618-619m 628 > 619-620m 629 > 620-621m 630 > 621-622m 631 > 622-623m 632 > 623-624m 633 > 624-625m 634 > 625-626m 635 > 626-627m 636 > 627-628m 637 > 628-629m 638 > 629-630m 639 > 630-631m 640 > 631-632m 641 > 632-633m 642 > 633-634m 643 > 634-635m 644 > 635-636m 645 > 636-637m 646 > 637-638m 647 > 638-639m 648 > 639-640m 649 > 640-641m 650 > 641-642m 651 > 642-643m 652 > 643-644m 653 > 644-645m 654 > 645-646m 655 > 646-647m 656 > 647-648m 657 > 648-649m 658 > 649-650m 659 > 650-651m 660 > 651-652m 661 > 652-653m 662 > 653-654m 663 > 654-655m 664 > 655-656m 665 > 656-657m 666 > 657-658m 667 > 658-659m 668 > 659-660m 669 > 660-661m 670 > 661-662m 671 > 662-663m 672 > 663-664m 673 > 664-665m 674 > 665-666m 675 > 666-667m 676 > 667-668m 677 > 668-669m 678 > 669-670m 679 > 670-671m 680 > 671-672m 681 > 672-673m 682 > 673-674m 683 > 674-675m 684 > 675-676m 685 > 676-677m 686 > 677-678m 687 > 678-679m 688 > 679-680m 689 > 680-681m 690 > 681-682m 691 > 682-683m 692 > 683-684m 693 > 684-685m 694 > 685-686m 695 > 686-687m 696 > 687-688m 697 > 688-689m 698 > 68

GE64 Turbine ELC Completed July 12/11 -JP

189-65H1023

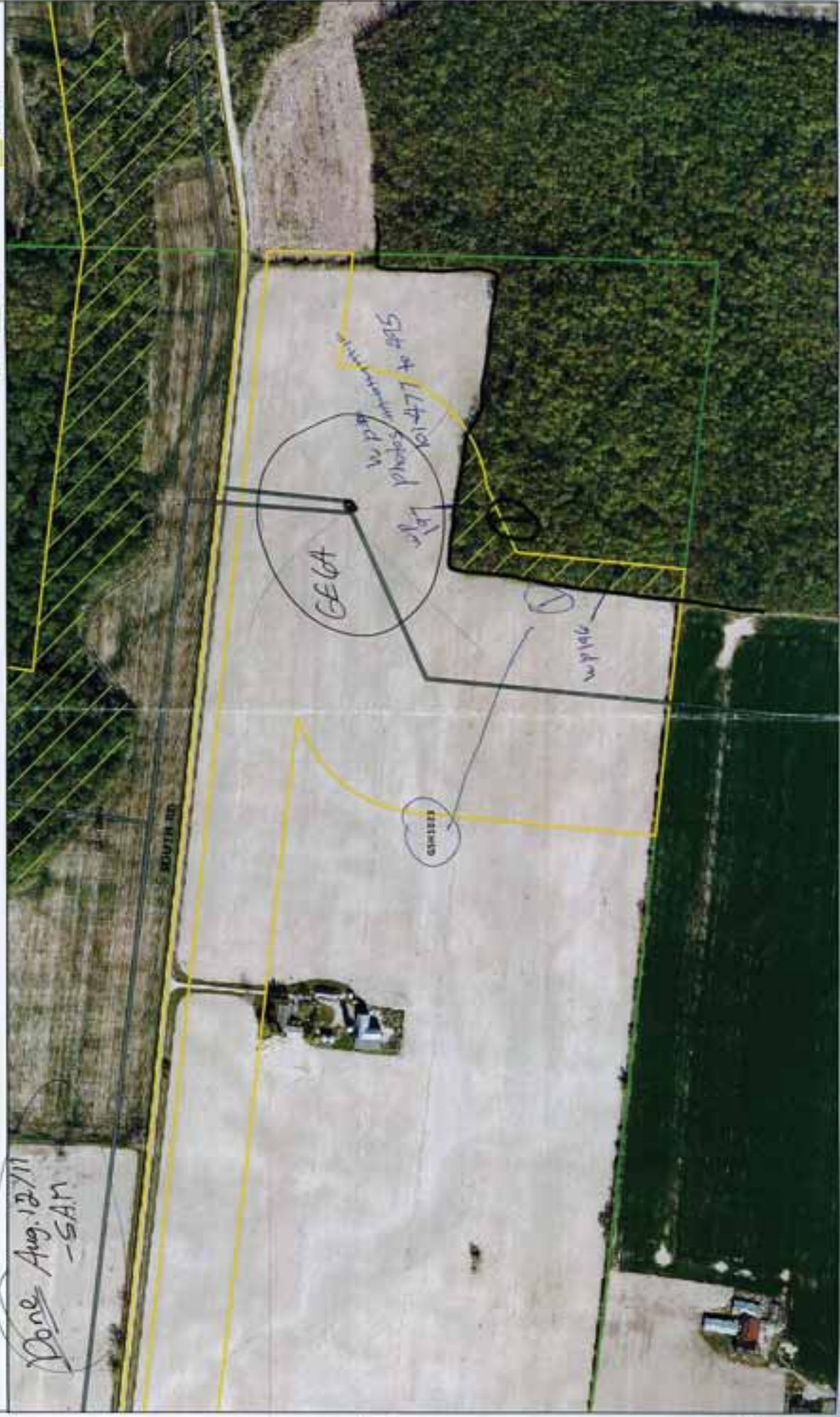
Goshen Access Road / Collection Lines

0 35 70 140 Meters



— Roads
— Access/Collection Line
— No Access (as of August 2011)
— Access

ELC to Evaluate
Waterbodies
Goshen Wind Energy Centre
100m Buffer



Site: GSH 1023
 Surveyor(s): SAM
 Date: Aug. 12/11
 Time: 0937
 UTMZ: 17
 UTMZ: W 197

Polygon Description

System	Substrate	Topographic Feature	Plant Form	Community
☒ Terrestrial ☐ Wetland ☐ Aquatic	☐ Organic ☒ Mineral Soil ☐ Parent Min. ☐ Acidic Bedrk ☐ Basic Bedrk ☐ Carb. Bedrk	☐ Lacustrine ☐ Riverine ☐ Bottomland ☐ Terrace ☐ Valley Slope ☒ Stratheland ☐ Roll Upland ☐ Cliff ☐ Talus ☐ Crevice/Cave ☐ Avar ☐ Rockland ☐ Beach / Bar ☐ Sand Dune ☐ Bluff	☐ Plankton ☐ Submerged ☐ Floating-LVD ☐ Graminoid ☐ Forb ☐ Lichen ☐ Bryophyte ☒ Deciduous ☐ Coniferous ☐ Mixed	☐ Lake ☐ Pond ☐ River ☐ Stream ☐ Marsh ☐ Swamp ☐ Fen ☐ Bog ☐ Barren ☐ Meadow ☐ Prairie ☐ Thicket ☐ Savinannah ☐ Woodland ☒ Forest ☐ Plantation
Site				
☐ Open Water ☐ Shallow Water ☒ Surficial Dep. ☐ Bedrock				
History				
☒ Natural ☐ Cultural				
Cover				
☐ Open ☐ Shrub ☒ Tree				

Stand Description

Layer	HT	CVR	Species in Order of Decreasing Dominance (up to 4 sp) (> Much Greater Than, > Greater Than, = About Equal To)
1	3	4	MS > BD > AW > MH
2	3	3	BD > BD > BE > MH
3	4	4	BD > BD > BD > HS
4	5	3	BD = HS

HT Codes: 7 < 0.2m 8 > 0.2-0.5m 9 > 0.5-1m 4 > 1-2m 3 > 2-5m 2 > 5-25m 1 > 25m
 CVR Codes: 0 = none 1 0% - 10% 2 10 - 25% 3 25 - 50% 4 > 50%

Stand Composition: Size Class Analysis:
 MS 19-BD 15-AW 15-MH
 BA: 26
 Standing Snags: 0 < 10 0 10-24 0 25-50 R > 50
 Deadfall / Logs: 0 < 10 0 10-24 0 25-50 N > 50

Abundance Codes: N = None R = Rare O = Occasional A = Abundant

Com. Age: ☐ Pioneer ☐ Young ☐ Mid-Age ☒ Mature ☐ Old Growth

Ecotype: Fresh-Twist Sugar Maple-Deciduous Forest Code: FOD6
 Vegetation Type: Fresh-Twist Sugar Maple-Hardwood-Deciduous Forest Code: FOD6-5
 Inclusion: Code: /
 Complex: Code: /

Community Profile Diagram/Comments

Notes:

10 15

Tree Tally by Species

Species	Tally 1	Tally 2	Tally 3	Tally 4	Total	Prism Factor	2
BD	2	2			4		15
HS	2				2		8
MH	1	2			3		12
BE	2	1			3		8
AW	2	3			5		15
MH	2	2			4		14
Total	28	12			40		100
Basal Area (BA)					52		20
Dead							

Soils Ontario and ELC Soils Description

Site Metrics		Pit/Auger #	Soils Description		Summary
UTM	Zone				
	Easting				
	Northing				
	Position				
	Aspect				
	Percent				
	Slope				
	Length				
	Mottles				
	Gley				
	Water Table				
	Carbonates				
	Bedrock				
	Depth from zero				
	Texture				
	Depth from zero				
	Texture				
	Depth from zero				
	Texture				
	Depth from zero				
	Texture				
	% Surface Stoner/Rock				
	Moisture Regime				
	Drainage				